

POPULATION EDUCATION

CODE – 584

In Collaboration with
“UNESCO” Principal Regional Office
For Asia and Pacific Bangkok



Allama Iqbal Open University
Islamabad

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Allama Iqbal Open University,
Islamabad, Pakistan

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CONTENTS

Unit No	Title	Page No
01	Dynamics of population	01
02	Introducing population education	19
03	Concepts of population education	45
04	Population situation in South Asian countries	73
05	Population policy of Pakistan	101
06	Population education and the formal system of education	127
07	Population education and non formal education	159
08	Integration of population education in literacy and adult education	189
09	Population education and women education	213
10	Planning for population education	239
11	Management of population education	271
12	Training of personnel	291
13	Monitoring and evaluation	321
14	Impact of population education on social system	359
15	Population and environment	383
16	Population policies and modes of cooperation in South Asian Countries	421
17	Agents and key personnel in population education	449
18	Research in Population education	469

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PREFACE

Population education has emerged as an area of deep concern within a relatively short period of time. Generally the industrialized countries were pioneers in this field but currently the unprecedented explosion of population in developing and less developed countries, has made their people extremely conscious about the implications of booming population figures. There are multidimensional approaches being adopted to face this problem. Population education is an educational approach to population problem. It has gained ground and proved its worth. In almost all developing countries, the projects with a variety of nomenclatures, purposes and strategies have been launched with a view to enhance the quality and standard of human life.

Many international agencies like UNFPA, World Bank, UNDP and UNESCO are above all appreciable in this connection. The course in hand has been developed with collaborative efforts and auspicious of UNESCO Principal Regional office for Asia and Bangkok. The personal efforts of Dr. Ansar Ali Khan are commendable. The writers of this course are experts of this field and come from various higher seats of learning. They all have already contributed a lot in their own capacity. Their expertise and contributions in this course are worthwhile and deserve due recognition.

Special thanks are due to the Chairman course team, Dr. Zulkaif Ahmad who made all necessary arrangements and contacted relevant authors and made this project a success. The efforts of Mr. Hamid Khan Niazi, the ex-coordinator of the project and the course coordinator Mr. S.M. Shahid who made every effort to complete the course, are appreciable. They deserve my thanks. I congratulate the whole team including administrative and services staff on this auspicious occasion.

I look forward to further opportunities of cooperation and close collaborative efforts with UNESCO and other national and international agencies in launching and offering this course. I hope this course would be very much useful and helpful with reference to its objectives.

Dr. Mohammad Tariq Siddiqui
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COURSE INTRODUCTION

Population education course through distance education has been developed with a view to provide proper theoretical background information and understanding regarding implications of rapid population growth. The course address particularly those who are planners, managers and administrators and workers of population education projects and related activities and generally all those who care for social and economic welfare of their societies and want to enhance the quality of life. The course materials have been developed keeping in view the mode of distance learning. It consists of 18 study units. Each study unit is roughly estimated to be a one week study material to be used at home according to the convenience of the reader. Contents of each unit have been organized and arranged in a sequential manner. Self assessment questions and practical activities have been inter-woven in the text.

Objectives of the Course

Following are the objectives of the course. After studying the course and completing the requirements, the students should be able to:-

1. Understand and discuss the dynamics of population and process of population growth.
2. Explain the concept of population education, its purposes, contents, approaches and strategies.
3. Express the modes of introducing population education programmes and projects.
4. Discuss the task and functions of planning, management, monitoring and evaluation of population education programmes.
5. Prepare and formulate population education schemes and projects in the national context.
6. Conduct researches and exploratory activities in Population Education.
7. Identify the plug points and key agents in introducing population education programmes.

DYNAMICS OF POPULATION

Writer: Dr. Farida Abdullah

Reviewer: Dr. Zulkaif Ahmad

CONTENTS OF THE UNIT

	Page No.
Introduction	4
Objectives	4
1. The Nature, Scope and Importance of Population Studies	5
2. Methods of Data Collection	7
3. Sources of Data	8
4. Assessment Questions Exercise No. 1	8
5. Basic Concept	8
5.1 Growth	8
5.2 Fertility	9
5.3 Mortality	11
5.4 Assessment Questions Exercise No. 2	12
5.5 Migration	12
5.6 Assessment Questions Exercise No. 3	14
5.7 Over Population	14
5.8 Zero Population	16
5.9 Negative / under Population Growth	16
5.10 Assessment Questions Exercise No. 4	16
6. Summary	17
7. Recommended Material for Study	17

INTRODUCTION

Enormous increase in population throughout the world is a major concern of today. The present world population is likely to be doubled around the year 2025. It has been observed that population increase is taking place mainly in the under developed and poor countries of the world. The increasing trend of population, therefore, calls for rapid agricultural, industrial and other developments to meet food, housing and nutritional facilities in the future.

In this unit we shall study this particular problem in a scientific way.

OBJECTIVES

Following are the objectives of this unit.

After studying this unit you should be able to:

1. Comprehend and explain the Phenomena of growth in population.
2. Understand and explain how the population related data can be collected.
3. Understand and describe the terminology to be used in the field of demography and population education.
4. Appreciate, realize and discuss the concept of over population.
5. Visualize and describe the implications of population change.

1. THE NATURE, SCOPE AND IMPORTANCE OF POPULATION STUDIES

After the World War II, the population growth rates of the developing countries have reached a point where the available resources causing hardship, misery and starvation. On the other hand, the population growth rates in the developed countries have declined to very low levels but they are facing other kinds of problems such as excessive urbanization, pollution and general environmental deterioration and negative population growth. In all countries of the world, the need for adequate demographic analysis and population planning remains essential for the future of mankind.

In general, the population pattern of a country may change as a result of birth and death rates and the volume of migration. These three factors, fertility, mortality and migration which continuously operate on a population and determine its size and growth form the major subject matter of demography – study of population. There are other factors such as marriage, divorce, social mobility (change in social status and conditions) which although do not affect the total size of the population but do determine the structure and composition of the population. In essence, population study is concerned with the collection and analysis of data relating to all of these factors and the interpretation of population data against the social, biological, economic, political, geographical, ecological and historical background of an area or a country.

Government and private enterprises need to understand the changes in population size, structure and composition so that they may work out short and long term plans. The important questions relating to the population problem are: Is the population growing larger, becoming smaller or remaining constant? What are the ages and sexes of the population and how are the relative numbers of each age-sex group changing? What are the proportions of single, married, widowed or divorced people and what are the current trends in marital status? Are people moving from rural areas to the cities? How can this movement be arrested? Will the immigration remain at the present level? What changes are to be expected in the national status of migrants? Are we having fewer or more children and what effect will this have on educational facilities in future? What are the causes of deaths and how do these vary with age and sex? Will we need more homes and doctors (and what kind of doctors)? These questions need answers. All of these questions require careful, objective and systematic study of the population. After having felt the problem of population changes, some of the countries have introduced programmes designed to change the rate of population growth which are giving useful results.

Important Elements of Population Studies

As a field of study, the most important elements of population studies are its size, composition and distribution.

(a) Size

In population studies, the term size is referred to the number of people who live in a given area of a country. What changes are taking place in the size of the group and how are these changes in size effected?

The major factors that affect size of population are: births, deaths and migration.

(b) Composition

The second major element in population study is its composition. This term covers all the measurable characteristics of the people of a given area or country. Generally, the composition of one population differs in a number of ways from that of another. However, the most widely used characteristics of population composition are age and sex, because they are directly affected by the fertility, mortality and labour force of a group of people. Some other important population is not restricted only to composition of a population at a given time but it is also concerned with the changes in the composition and their effect on community life.

(c) Distribution

The third important element of population is its distribution. The study of distribution of population tells us how are the people placed in a specific area of a country and what changes are taking place in their distribution. In other words, distribution within a country refers to how many people live in rural areas and what number of people live in different types of urban communities. Age, sex, income, education and other factors can also be kept in view while studying the distribution of population.

2. METHODS OF DATA COLLECTION

Demographers use two kinds of data: information about persons, i.e. characteristics of age, sex, residence and events. Information about rates of births, deaths, marriages and divorces are called vital rates or vital statistics.

Usually this information is obtained by different methods: census methods: registration method and sampling method.

(1) *Census Method*

Census is the enumeration of the total population at a given point of time. It is also defined as the total process of collecting, compiling and publishing demographic, economic and social data pertaining to a specific time or times to all persons in a country.

Many countries conduct censuses at regular intervals of five or ten years. Age, sex marital status, the sources of living-hood and the place of birth are frequently included in census inquiries. Census may be conducted by adopting different methods of collecting information including direct contact, mailed questionnaire or legal enumeration.

(2) *Registration Method*

Registration is another traditional type of data collection. Records are kept about births-deaths, marriages, divorces, etc., in the registers maintained for this purpose by the government agencies. In many countries, the registration is compulsory and the citizens are bound to register births, deaths and marriages as it is beneficial for themselves also. For example, in U.S.A. people get themselves registered and this registration is compulsory to obtain citizenship rights, employment and social security.

Registration continues throughout the year, while census are taken at a specific time and are completed within a specific period.

(3) *Method / Technique Sample Survey*

This method produces the same kind of informations as the other two techniques already discussed but its purposes are different. Most surveys are designed to provide some definite statistical information as opposed to the wider scope and larger scale of a census or vital statistics. Normally, a survey is not only comparatively of a smaller magnitude but, often, it is limited to the sample of a population. This method is quick and less expensive and it also provides accurate information about each individual.

3. SOURCES OF DATA

Most population information is obtained from three main sources: censuses, registers of vital statistics and special sample surveys. Most of the data derived from the first two sources are found in official government reports – census reports and vital registration reports. Although most countries attempt to keep such reports in a systematic and orderly fashion, in some of the countries these data are either not available or widely scattered in different offices. And, such unorganized data hinder orderly analysis of population. It is important that one must become familiar with all the statistical sources for a country in order to make efficient use of any part of them.

The United Nations and its organizations also collect, compile and publish international statistical data on a regular basis. They assist member nations in the collection of basic and essential data and provide opportunities to improve the coverage, accuracy and comparability of these statistics. Today, the reports of United Nations are considered very important source of data regarding population.

4. ASSESSMENT NO. 1

1. How would you describe the area of population Studies?
2. What are the purposes of studying the various aspects of population?
3. What are the essential elements of population phenomenon?
4. Explain the various methods of data collection with regard to population studies?

5. BASIC CONCEPT

The study of population is concerned not only with the size, composition and distribution of population, it also deals with its change as well. These concepts are discussed in the following paragraphs.

5.1 *Change*

Changes in the size of population, whether increase or decrease, are called “population change”. Changes in the growth of a population come from three demographic factors: fertility (births rate) mortality (deaths rate) and migration. Although changes in fertility, mortality and migration affect the growth of

population, the first two factors set the population growth.

Here, we give some examples of population changes in terms of the increase and decrease in number of people in the given population. The birth rate gives the number of births per 1000 people in the population. Thus a rate of 20 per 1000 means that for every 1000 people, 20 children were born in that particular year. Similarly, the death rate gives the number of deaths for per 1000 in the population. Thus, a death rate of 15 per 1000 means that out of every 1000 people, 15 died in that particular year.

(i) Rate of Change

The term rate of population increase or growth refers to the natural increase plus the net-migration. The difference between the crude birth rate and the crude death rate is called the rate of natural increase. Migration is not considered in the calculation of a natural increase. To measure actual change in population growth, natural increase and net migration both should be considered.

(ii) Population Change and Economic Change

Population change plays a conflicting role in the development process. It can act both as stimulus and an impediment to growth and development. In the developing countries rapid growth of population has hampered development. It is true population is growing at faster rate as compared to the resources of these countries. The resources of these countries are unable to absorb a large number of people. As a result, here is rise in unemployment and poverty.

On the other hand, population is an asset and a vital factor in the development process. Human resources of a country can play a vital role in the overall economic development.

5.2 Fertility

Generally, the term fertility is used to indicate the actual reproductivity of a woman. Fertility means the number of children actually born by a woman. The measure of fertility is the average number of children born by a woman who has reached the end of her child bearing period, while the general fertility rate may be defined as the average number of children per 1000 women of child bearing age (15-44).

Population change due to births and deaths is termed as natural increase. Population change due to natural processes of births and deaths is called the

Natural increase of population.

$$\text{Natural Increase} = \text{Births} - \text{Deaths}$$

When the number of deaths is greater than the number of births then natural increase is expressed with a minus sign (-). To calculate population growth, one can use the following formula:-

$$\begin{aligned} \text{Population growth} &= \text{Natural Increase} + \text{Net Migration} \\ &= \text{Births} - \text{Deaths} + \text{In Migration} - \text{out migration} \end{aligned}$$

Another way of writing the same equation is population growth = (Births + In-migration) – (Deaths – Out-migration).

Moreover birth rate may be calculated as under:

$$\text{Birth rate} = \frac{\text{Total No. of births} \times 1000}{\text{Total Population}}$$

Factors Affecting Fertility

There are several factors which affect fertility. Some of these factors increase fertility, while other decrease it:

a) Decrease in Mortality

A decline in mortality has increased expectancy of life. As a result, more women of child bearing age survive and their reproductive spans are lengthened. A decrease in mortality is associated with improved health, and better health improves the physical capacity of women to bear more children. On the other hand, decline in infant mortality rate lowers fertility by reducing parents' desire for more children.

b) Age at marriage:

Age at marriage also affects fertility level. The lower the female age at marriage, the longer will be the reproductive period and the greater number of children will be born.

c) Women Education:

Education of women is considered to be an important factor affecting fertility level. Highly educated women prefer a small family, and has lower fertility than the lesser educated women of low status, because her reproductive period is shortened due to time spent in acquiring education.

d) Relationship of Fertility with Socio-Economic status

The relationship of fertility to socio-economic class is based on the

assumption that classes differ in their life style, marriage age and hence in fertility level. An inverse relationship between fertility level and socio-economic status has been observed in countries with high fertility rate. A voluntary control of the size of a family by parents with high socio-economic status is practiced in these countries to secure a good social status for themselves and their children.

e) **Fertility and Rural-Urban Distribution:**

Modern life style of cities desire advance social and economic status, education and easy access to family planning services etc. Hence there is lower fertility in Urban areas. On the other hand, the social life style of rural area is still in favour of more children. Rural women are more fertile and prefer larger families.

5.3 Mortality

Mortality means the number of deaths among the components of population. Mortality has played an important role in determining the growth of population. Rapid population growth is represented by the difference between birth rate and death rate. This gap has been reduced by significant reduction in mortality. Major factors generally considered to have contributed to mortality decline in Western countries, in the demographic transition period, were:-

- a) Discovery of new continents which provided additional sources of food and raw materials as well as an outlet for growing population.
- b) Technological changes in agriculture together with the development of modern industry.
- c) Emergence of relatively stable governments which facilitated better distribution of goods and services.
- d) Improved environmental sanitation which drastically reduced the incidence of major causes of death.
- e) Improved personal hygiene.
- f) Development of modern medicine and public health programmes.

The actual amount of contribution of each of these factors to mortality reduction is not known because there may be some other factors also which have reduced death rates.

Infant mortality may be defined as the death of children before one year of age. Deaths among infants have also been decreased due to certain medical and environmental improvements.

Increase or decrease in death rate affects the country's total population and

its future plans and policies.

Here we state how the death rate is calculated:-

$$\text{Death rate} = \frac{\text{Total No. of deaths} \times 1000}{\text{Total Population}}$$

Now, let us discuss the factors related to high mortality and decline in mortality.

Factors related to high mortality in the past

- 1) Food shortage
- 2) Epidemics
- 3) War Losses
- 4) Poor conditions of living

Factors in Mortality Decline in Developed Countries

- 1) Economic development and rising income levels.
- 2) Sanitary reforms and public health measures.
- 3) Social reforms
- 4) Advances in medicines

5.4 Assessment No. II

T	F	Population change means the births, deaths and migration of the people.
T	F	To calculate population growth the formula is: (Births + in-migration) – (Deaths – out-migration)
T	F	Mortality is generally used to indicate the actual reproductivity of a woman.
T	F	Highly educated women often prefer a large family.

5.5 Migration

Migration is vague term with different meanings associated to it. Generally, it is defined as geographic mobility that involves a change of residence between defined political or geographical areas, or between residence areas of different types.

According to concise Oxford dictionary, “Migration” means to move from one place, country or town to another. Thus, migration is the movement from one place to another within the country or outside it. UNESCO has described migration as movement from one region to another for the purpose of settlement. There is another definition of migration. It can be defined as a form of spatial mobility between geographical unit involving a permanent change of residence.

In the light of above mentioned definitions, there are two broad classifications of migration – Internal and international migration. The movement of people within a country for the purpose of changing home is called internal migration while the movement of people between countries is called external or international migration.

Measurement of Migration

- a) People who move to a village or city to settle down are called in-migrants to that place. People who leave a village or city to settle in some other places are called out-migrants from that village or city. In-migration and out-migration refer to the movement of people for the purpose of settlement within the same country. Net migration is equal to the difference between number of in-migrants and out-migrants that is:

Net migration = in-migration – out-migration

If there is more in-migration, the difference is expressed with a plus sign (+). If there is more out-migration, a minus sign (-) is use.

Internal migration, in this sense, is residential mobility from one unit to another within the same country. Internal migration has no direct effect on a country’s population size and change but is intimately related to population distribution within a country, and particularly to the process of urbanization.

- b) The movement of individuals from one country to another country whatever the cause is, defined as external migration. Associated with the external migration are two terms, emigration and immigration. The external migration is mainly is pursuit of achieving certain social, economic and political objectives.

Causes of Migration

It has become traditional for social scientists studying migration to classify its causes under two headings: Push Factors and Pull Factors.

Push Factors

Many social scientists view push factors in terms of a series of interrelationships between rapid rural population growth and inadequacy or growing scarcity of rural resources. They tend to view seriously the lack of amenities in rural communities, the absence of high quality housing, and poor sanitation, water-supply, health, medical and education services as causes of migration. They also stress that the lack of opportunities of education beyond primary level in rural areas and the lack of cultural and the recreation facilities influence the volume of migration.

Pull Factors

Pull factors are generally analysed in terms of opportunities. The chance for higher education, for employment according to the academic qualifications and chances of greater economic gains are the typical major pull factors quoted by the social scientists.

There are three generalizations about rural-urban migrants which appear valid:

- 1) the rural-urban migration stream includes a large proportion of migrants in younger age groups (15 to 34 years of age).
- 2) The rural-urban migration stream includes a large proportion of people who are more educated than the rural norm for third countries.
- 3) The rural-urban migration stream includes a large proportion of male migrants.

In other instances, economic, social, geographical, political and religious factors lead to migration.

5.6 Assessment No. III

- | | |
|----|--|
| 1. | Discuss the factors affecting fertility? |
| 2. | What are the causes of migration? |
| 3. | How would you measure the migration? |

5.7 Over Population

Over population is not simply a function of the size or density of the population, but rather the number of individuals compared to the sources needed for survival or well-being. Overpopulation can be determined using the ratio of population to available resources. If the population is of ten, but there is good or

drinking water enough for only nine, then that environment is overpopulated; if the population is 100 individual but there is good, shelter or water enough for 200, then it is not.

Overpopulation occurs when population growth outstrips available resources. It is a situation where it is impossible to provide everyone on earth a living standard at the subsistence level.

Causes of Over Population

Over-population is a big obstacle in economic development of developing countries. Population of developing countries is growing more rapidly now than it did ever before. There are many reasons of over population. Some of them are listed below:

- High birth rate
- Decline in death rate
- Improved medical facilities
- Illiteracy
- Conservative philosophy of family life
- Joint family system

Affects of Over Population

The rapid growth of population adversely effects economic development of developing countries in various ways.

- It lowers per capita income.
- It increases pressure on land and results in high land to mass ratio.
- It increases the size of younger age group with the result that dependency ratio increases.
- It reduces the productivity of labour due to under-nourishment.
- It increases unproductive expenditure and the volume of savings declines.
- It acts as a barrier to capital formation and capital deficiency regarding productivity growth.
- It creates unemployment, under employment and ultimately leads to wastage of human resources and poverty.

- It results in depletion of natural resources.
- It causes high infant and child mortality.
- It causes high rate of unemployment in urban areas which leads to social problems.
- It results starvation, malnutrition or poor diet with ill health and diet deficiency disease.
- It reduces life expectancy in countries with fastest growing population.
- It results over utilization of infrastructure, such as mass transit, highways and public health systems.
- It causes higher land prices.

Suggestions to Over-come the Problem of Over-Population

The problem of over-population can be solved either by reducing the birth rates or by accelerating the rate of economic development.

To control birth rate, family planning campaign should be launched throughout the country. This method is easy and quick to tackle this problem, but it is not happily accepted by the people due to their irrational and conservative outlook.

Over population can also be eradicated through the accelerated economic development. Economic development produces a beneficial effect on the economy and the people. With it, the economy gets a sustained growth and idle resources are drawn to economic use.

5.8 *Zero Population*

When the death and birth rates in some area are equal, there will be no increase and decrease in its population strength. This situation may be called as zero population.

5.9 *Negative or Under Population*

If birth rate in a society is less than its death rate, there will be gradual decline in the population growth of the area/society. This situation may be named as Negative or Under Population. Such a situation has appeared in some developed countries because people in those countries have adopted many measures for the birth control. Perhaps this situation is better for the planners to raise the standards of life of their people, but a day may come when there will be

no human being if such situation is allowed to continue.

5.10 Assessment No. IV

- | | |
|----|---|
| 1. | How would you differentiate between the Zero Population and Negative or Under Population? |
| 2. | What can be the reasons of Negative Population in a country? |
| 3. | Discuss the consequences of Over-population. |

6. SUMMARY

Population explosion has created tremendous problems. Because of this problems in the areas of education, agriculture, health and transportation are increasing day by day. This situation demands study of the population. Size, distribution and composition are the basic elements of population and information regarding them may be acquired through population surveys. There are various methods of data collection census method, registration methods and sample survey-techniques. Other important concepts relating to population studies are: population growth, fertility, mortality, migration. Over-Population, zero population and negative population growth. A demographer or researcher studying population should have clear concept of these terms. Otherwise he will not be able to understand population problems and suggest possible solutions.

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INTRODUCING POPULATION EDUCATION

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CONTENTS

	Page
Introduction	22
Objectives	22
1. Historical Background of Population Education	23
2. Scope of Population Education	24
3. The Rationale of Population Education	25
4. Self Assessment Questions -I	26
5. Population Education: Approaches and Strategies	27
5.1 Population Education: What it is Not	27
5.2 Approaches and Strategies	28
5.3 Strategies for Training	29
5.4 Hierarchical Face-to-Face Training Model	29
5.5 Peer-Training Model	29
5.6 Mobile Training Model	30
5.7 Modular or Self-Learning Training Model	30
5.8 Correspondence Training Model	31
5.9 Linked Training Model	31
5.10 Educational Radio (ER) and Educational Television (ETV) Training Models	31
5.11 Field Operational Training Model	32
5.12 Internship and Attachments	32
5.13 Eclectic Training Model	32
5.14 Use of Education Technology in Population Education	33
5.15 Conclusion	34
6. Family Life Education	34
6.1 Fundamental Issues of Family Life Education	35
6.2 Ageing of the Population	35
6.3 Urbanization/Migration	36
7. Objective of Family Life Education	37
7.1 Concepts	37
7.2 Family Life Education & Family Welfare	38
7.3 Family Planning	39
7.4 Family Welfare and Family Linkage in Family Life Education	40
7.5 National Manifestations of the Linkage	43
7.6 Conclusion	43
8. Self Assessment Questions-II	44

INTRODUCTION

Population Education is comparatively a new field and it has become very popular within a short period of time, specially with the efforts of International Agencies like UNESCO, UNFPA and World Bank. Since Population Education is an Educational approach to deal with population problems. The concepts of Population Education need to be introduced and integrated within the system of education in various strategies and approaches. Various methods have been made in the Curriculum Schemes at various levels. The approaches include, separate subject approach, infusion and permeation approaches. There are other various approaches related to teachers training, delivery system and media approaches etc. These and many other related concepts have been explained in this unit. Family life education, its purposes, rational and reasons have also been included. It is expected that the unit would be an interesting study material in this course.

OBJECTIVES

Following are the objectives of the unit. After studying this unit, you should be able to:

1. Understand, explain and review the concept of Population Education and its historical emergency.
2. Understand and discuss the rationale for Population Education.
3. Comprehend and explain the various approaches and strategies to introduce Population Education at various levels of education.
4. Appreciate, understand and explain the need for teacher training in Population Education.
5. Understand and apply where necessary the concepts of family life education and training of teachers in Population Education.

I. HISTORICAL BACKGROUND OF POPULATION EDUCATION

The idea of Population Education was first conveyed in 1941 when Alva Myrdal in her book "Nation & Family" tried to convince the American reader that Population Policy and the national social policy were the same. The role of education was seen as that of influencing children to appreciate national population goals. The concern that was voiced by Alva Myrdal was based on the decrease of population in U.S.A.

Population Education was reborn with the publication in 1962, of two articles "The Population Explosion" by Warren S. Thompson, and "Population Gap in the Curriculum" by Philip M. Hauser. Warren S. Thompson emphasized that one of the purposes of formal education was to prepare the young to cope with the complex problems of modern society, to participate in community life and deal effectively with a rapidly changing society. He stressed that population change was of fundamental importance for the welfare of the society at large. Huser observed that it is about time for twentieth century school curricula to incorporate twentieth century demographic findings in the context of their twentieth century implication.

The need to include population content in the school curricula was also voiced by Iran Slesnick and Sloan Wayland. In Fact, the term "Population Education" is closely associated with the name of Sloan Wayland. He used this term in order to draw attention to the fact that its substantive content and focus was different from sex education and family life education.

A land mark in the history of population education was the workshop on Population Family Education sponsored by the UNESCO Regional Office for Education in Asia held in Bangkok in September-October, 1970. Educationists from 13 members States in Asia addressed themselves to the task of defining and stating objectives of population education. They suggested strategies for organizing programmes and outlining the population oriented contents for incorporation into the school curricula. A note-worthy result of this workshop was the start of population education programmes in many countries of Asia.

The next landmark in the history of population education in the world appeared in 1974 in the form of the World Population Plan of Action which declared:-

Education institutions in all countries should be encouraged to expand their curricula to include a study of population dynamics and policies, responsible parenthood and the relation of population dynamic to socio-economic development and to international relations".

Now several national programmes in population education are reaching the schools in various countries and many more such programmes are serving the nations through other means.

2. SCOPE OF POPULATION EDUCATION

Population Education is fairly a recent field. Its beginning was in the mid-sixties. Until recently, the term has been synonymous with education programme for introducing population related concepts in the formal school system but with the passage of time the concept has been broadened up to the highest level for all types of education. Now educators are mostly realizing the importance of this field throughout the whole educational system.

Population Education may be defined as the educational process where individuals learn the causes and consequences of emphasizes the inculcation of awareness and sensitization about the implications of population growth with the purpose to enable the individuals to make rational and consider decisions regarding growth of population. Most of us are very well aware that the biggest enemy of human race is over population. The awareness and realization of the implications & consequences of population change is called Population Education. The concept of Population Education is still in the process of definition redefinition. In some situation population education has been defined as a new curriculum area and one of the important intervention and strategy required to improve the situation. It is also defined as to provide people and adults with the awareness of the relationship between population change and selected socio-economic aspects which contribute toward the quality of life, and to involve individuals in a learning process for extending their vision about population related issues. It includes broadening their perspective and development of skills in analysing the issue in a meaningful and socially useful manner.

3. THE RATIONALE OF POPULATION EDUCATION

The rationale for teaching about population in schools is clear. In its role as a dynamic force for social change, the purpose of population education is to prepare the young for responsible adult life. This requires both presenting relevant information and teaching analytical process and skills that can be broadly applied by the adult individuals in solving population related issues. Since population affects all aspects of modern life, important population issues and methods for analyzing population problems should be an integral part of in-school as well as out of school education.

Population Education can also build the attitudes and values that shape individual and social life. Where the environment responsible parenthood and population related issues are important national concerns, they should find a place in the school curriculum so that the young ones of today are equipped with requisite skills and prepared to face these issues when they enter their practical life. Thus, omitting population education from the school curriculum might suggest that the issue has low national priority.

For advocates of educational reforms, population education has offered an opportunity to change both curricula content and teaching methods. Population topics are socially relevant. They can easily be adapted to new teaching methods such as “inquiry learning”, “values clarification” and “dramatization” etc. Inquiry learning calls for students to discover basic patterns in concepts and facts provided by classroom materials. For instance, using the approach, census data have stimulated a discussion of fertility, family size, and socio-economic problems.

Population Education is an important curriculum innovation in the sense that it draws its contents from a number of disciplines and organizes it around one or more themes like history, geography, home economics, physics, mathematics, etc. This innovation enriches all subjects by opening up new and widening their scope.

Population Education encompasses a survey of the past, the immediate and the near as well as distant future. For example, the large proportion of population under 15 years of age in most developing countries, at present is a momentum of population growth in the future. Meanwhile it is observed that past reproductive behaviour of population resulted the consequent youth depending burden.

To use the school curriculum to tackle emerging social problems through new and specific educational growing concern over the behaviour of young people in the 60s the school came up with a work oriented curriculum. More recently, the

growing public concern about drug abuse has been met by a programme on drug education. In fact, if emerging needs of society are not incorporated in educational system, the educational process becomes meaningless and ineffective both at micro and macro level.

A concern about population growth and its educational implications were expressed at the international level during 70s. The planners of the programme were in general agreement that population growth apparently threatens the stability of socio-economic life. Planners suggested that there is a need for controlling population growth through reduction of the birth rate. The progress in population control, however, depends on the attitude and motivations of the people toward the size of families.

Attitudinal change is not an easy task. It has deep roots in the culture and traditions of a society. It was appropriate and necessary in the past to have many children, but now the conditions are no longer the same. There is an urgent need to change the fertility behaviour of people not only for the sake of individual families but also for the national and world society.

Considering schools as a dynamic force for social change, some educators thought of a possibility of introducing population education into the formal school system. Through the inclusion of population studies in the curriculum, it is hoped that the children and the youth will be helped to develop attitudes and ideas that will make them want, on their own decisions, to adopt a size of family which is reasonable for them and their society.

4. SELF ASSESSMENT QUESTIONS

- | | |
|----|---|
| 1. | Explain how the concept of population education emerged? |
| 2. | What is scope and rationale of population education specially in a developing country like Pakistan. |
| 3. | State reasons why population education should be integrated with curriculum. |
| 4. | Prepare a table of population of your city/town or village and its growth since 1961 onward and comment upon its rate of growth vis-a-vis increase in resources in terms of educational, health transport and housing provisions. |
| 5. | Argue in favour of introducing population education through the system of education. |

5 POPULATION EDUCATION: WHAT IT IS NOT:

Population education is an education programme designed to study the population situation, human reproduction and family planning and their impact on quality of life in the family, community, nation and the world.

Population education, therefore, is not synonymous with family planning as the latter is associated with such terms as birth control, birth planning, child spacing, fertility control/regulation and planned parenthood, etc. However, this is not to say that family planning has no place in population education programme. Family planning as a means to enhance quality of life is very much a part of many country programmes in population education.

Population education is not sex education, as the latter is mainly concerned with human sexuality, reproduction and often times the ethical issues relevant to sex-related morality. Again, many population education programmes include sex education but is certainly not to be used inter-changeably with population education.

Population education is not demography, as the latter deals with “the quantitative study of human populations and the changes in them that result from birth, deaths, and migration. Demographic contents are part of population education programmes because quantitative changes of human population affect quality of life.

Population education is not population studies as the latter is more academic and research-oriented. It covers the body of knowledge concept and theories which describes and attempts to explain the dynamics of human population and their relationship with the social, cultural, economic, political and biological environment. Like demography, population studies is a source of contents for population education programmes.

5.1 Population Education: Approaches and Strategies

As a result of the recognition of education as an important instrument for bringing about change in attitude and behaviour, many countries in Asia now have national population education programmes. Now the countries in the region have exactly the same population related problems hence the structure, approaches and strategies to population education programmes are equally important to each country.

5.2 Approaches and Strategies

Approaches-and strategies to population programmes are unique to each country. Some of these approaches and strategies are common and are discussed

briefly in this chapter for incorporation of Population Education concepts in curricula and in our Text-books. These approaches are frequently applied in those countries where Population Education is not dealt as a separate subject.

1. Sub-unit Approach:

This involves the preparation of teaching units to be added to an existing unit in the course/syllabus of the subject area which is used as a carrier of population education.

Infusion: This involves enriching and expanding existing units in the syllabi of the “accommodating” subject areas to include population education related ideas. It substitutes examples into already existing materials to illustrate a new point or a new approach adopted in the teaching of population related topics in existing syllabi. Through the substitution of examples, the education content remains the same; only the substance of the example is to be changed. This approach is being used in many countries and in Pakistan as well at primary level in combination with other approaches of integration.

Permeation: The curriculum of selected subjects is over hauled to allow for the permeation of relevant ideas. This allows for full integration of population education content in the curriculum thus making it an integral part of the subject matter content of the said subject. This approach is also used in Pakistan at Secondary & Higher level.

2. Core learning kit approach

This approach calls for the development of general curriculum and appropriate teaching-learning materials to meet the learning needs of the out-of-school population. This approach differs from the separate unit course and infusion strategies in the sense that it neither advocates the infusion of population education concepts into other disciplines nor does it form a unit within any other disciplines. Instead, it advocates that this approach identify common areas of interests and needs of various categories of target audiences, predetermine sets of relevant population education concepts, translate them into a series of learning activities and prepare appropriate teaching learning materials. All of these materials are then compiled in the form of modules or guides referred to as “core learning kits”.

The field workers of various development departments are then provided training in the contents of the kit and their use in the field with special emphasis on the need for adapting the contents and the teaching learning materials to varying socio-cultural context. At present, the Non-Formal Education Directorate

of Indonesia and the Population Centre Foundation of the Philippines are experimenting with this approach.

5.3 Strategies for Training

One of the important component of all the population education programmes is the training of teachers and other personnel in the formal and non-formal education sectors. The countries which have already launched national population education programmes have experimented with different models of training whereas those which are beginning their programmes are planning to use a combination of a variety of models of training. Each model has its merits and demerits and there is as yet not empirical study conducted which can vouch for one or the other model for training. The countries have to decide themselves which models are effective in achieving the planned objectives of the training programme as per their needs, available resources and constraints. The different training models which are being used in different countries in the region are briefly discussed here.

5.4 Hierarchical Face-to-face Training Model

According to this model the training continuum consists of successive training sessions for different educational personnel in the hierarchical descending order. The process involves training of personnel face-to-face in two or more steps, wherein the project personnel are trained at the national and international level who in turn train a selected group of specialists or master trainers at the national level. The master trainers train the second group of trainers (teacher educators, district education officers, principals, college professors and others) who in turn train the teachers at the district, sub-district or village levels. This kind of model places the teacher who is the main target of the training programme, at the end of the line and a receiver of what is passed on from the top.

5.5 Peer-Training Model

The peer training model involves a linear pattern in which the trainers and the trainees are both on the same level. Under the hierarchical face-to-face training model it would take considerable number of years to train all the teachers in Population Education whereas the ideas of population education can be taken to all the teachers through the peer training model in a matter of one to three years depending upon the size and infrastructural facilities available in a country. In this model the principals and subject heads or coordinators in each secondary school are trained by teacher trainers through face-to-face training and they in turn are given responsibility for training teachers in their own or neighbouring schools. Each institution is provided a complete set of training materials including training manual, teachers guides or audio-visual aids, and evaluation tools. Each school sets its own schedule of training of teachers. Each school sets its own schedule of

programme to the district education officer to pass on the consolidated information to the officers in charge at the regional/provincial level. The supervisory teams also visit the schools and provide on the spot assistance, guidance as well as evaluation of the training programmes.

This model has the advantage of economic feasibility and a faster rate of teacher training. The absence of hierarchy in terms of job position between the trainer and the trainees generates a closer and smoother interaction between the two. Some researchers also indicate that in-service teachers prefer to take the advice of experience teachers who are currently teaching rather than other professionals who may have more specialized training but less teaching experience in the schools.

5.6 Mobile Training Model

This model consists of floating or mobile teams comprising of trained, competent and highly experienced teachers, administrators, and supervisors who conduct training programme for teachers in their schools or in designated training centres in the area. These teams are equipped with a variety of instructional materials, aids and equipment. The teams can be replenished as the training goes on, thus minimizing the withdrawal of the members from their respective posts for a longer period and also giving a chance to other competent teachers and administrators to act trainers. The training can be organized at a stretch or during vocations or weekends as may be convenient to the teachers and administratively feasible in a particular area.

The advantages of this model are that it does not disrupt the school work and is more economical because there is no additional expense to be incurred on the training or daily allowances of the teachers. Moreover, the training programme can be geared to issues and problems specific to a particular school or area, thus making it more relevant and useful to the teachers.

5.7 Modular or Self-learning Training Model:

The modular approach is a relatively new innovation in the in-service as well as pre-service training of teachers in Asia and the Pacific. It has been shown by some studies that self-learning modules can bring about a great gain in knowledge and attitudes. Modules provide for independent and direct training of teachers, require minimum supervision, are easy to administer, more economical, and entail a minimum of logistical problems. One of the crucial problems in using this model is to ensure the motivation of teachers to use the self learning modules.

5.8 Correspondence Training, Model

This model has been successfully used in the form of a summer-school-correspondence course for the pre-service training of teachers in India conducted

by the Regional Colleges of Education under the National Council of Educational Research and Training. The model comprises a correspondence phase and a face-to-face training phase. The same model can also be successfully used for the in-service training of teachers in population education. The main advantage of this model is that a large number of teachers can be reached, particularly those in the remote areas. This can be an effective as well as economical model for training teachers in population education. The success of this model, however, depends upon the quality of the set of correspondence lessons and other learning materials, a systematic and regular feedback mechanism, and an efficient postal service. The programme is most effective if it is supplemented with some kind of face-to-face training sessions either by peers or headmasters of mobile training teams.

5.9 Linked Training Model

According to this model the training of teachers in population education is built into the in-service training activities set up for those subject areas in which population education has been integrated. A set of time is allocated to the teaching of population education within the total training period. This model can be used as a supplement to other models of training because the number of teachers that can be covered through this model will be very limited. The benefit of this model is mainly economical because no additional expenses are required for the travel and daily allowances of teachers. The basic limitation of this model is that the time which is generally made available for population education would be such as to make it difficult to provide more intensive and sustained training. There is also a possibility of the population education component being overshadowed by the main subject area for which the training is organized, but these limitations are not insurmountable. Most of the countries in Asia conducting population education programme are using this model and have integrated the training in population education in their on-going in-service training programmes for teachers.

5.10 Educational Radio (ER) and Educational Television (ETV) Training Models.

Many countries in Asia and the Pacific are using radio and television in supplementing and reinforcing the in-service training of teachers.

The use of Educational Radio and Television for the in-service training of teachers in population education is one of the possibilities which should be explored. This can be an economical and effective model for training teachers especially those who live in remote areas. The teachers should receive the background resource materials before the broadcasts. The head of the school should be made responsible to conduct the training programmes and send feedback and evaluation periodically to the district education officers of the

concerned officials at the national level. - This model can be supplemented with a peer training model and modular training model to make it more effective.

5.11 Field Operational Training Model

This model has been used by the UNESCO Regional Team in Population Education especially for the training of out of school key personnel, from different countries. This is based on participatory activities in the rural community where the participants survey the needs of the community, identify their problems and develop programme and material which are need-based. This modality has been quite successful even at the national level for the development of materials and the training of key personnel. Because of the financial, physical and time constraints this model may not be feasible for the training of personnel on a large scale.

5.12 Internship and Attachments

The internship model of training has been used by the UNESCO Regional Team in population education for the training of key persons from different countries in population education as well as in documentation. The interns work on specific areas of population education through self-study under the direction of the team. This model can also be used at the national level in the training of key persons. The limitation of this model is that only a selected few can be trained through this model.

The attachment of key persons for a period of one to three months to some successful programmes in population education has been organized by the UNESCO Regional Office, Bangkok. Under this programme the trainee works as a member of the local staff and gain full experience in the substantive as well as operational aspects of the programme.

The financial and resource constraints of the internship and attachment model limits the number of persons who can be trained.

5.13 Eclectic Training Model

This model combines all the above models for the training of different categories of personnel. The model envisages four main categories of personnel viz. (i) population education project personnel; (ii) administrators and policy level personnel; (iii) resource persons and trainers; and (iv) teachers and field workers. For each category of personnel main models of training has been suggested which can be reinforced or supplemented by other models of training depending upon the needs and resources of a particular country. The main strategy used in this model is that the population education project personnel, administrators, and

resource persons and trainers whose number is manageable and who need extensive training will be trained through face-to-face models, whereas teachers and field workers will be trained through mobile teams and/or peer training models. The training of teachers and field workers can be supplemented by modular, linked, correspondence and/or educational Radio and ETV. This model is economically feasible, effective and has a minimum of administrative and other problems.

5.14 Use of Educational Technology in Population Education

In view of the inclusion of population education content in different in-school subjects and non-formal education programmes, adequate learning materials in Population Education was developed under the provisions of national projects. It mainly focused on five core messages of population education, considered as crucial in yielding the desired effects and impact on students, and out-of-school youth and adults. The themes of the proposed core messages are (i) family size and family welfare, (ii) delayed marriage (iii) responsible parenthood; (iv) population change and resource development; and (v) population related beliefs and values.

In 1985-1986, the Regional Team, in collaboration with experts in the countries, developed a video cassette tape for the first core message, i.e. family size and family welfare, using the problem solving or inquiry approach. The video cassette tape is intended primarily for use in the training of teachers and other key personnel, and in teaching population education. In 1976, the Regional Team, collaboration with experts in the countries, developed a prototype slide and tape entitled, "Demography in Population Education". This set was further improved in 1981-1982. These two sets of materials have generated a lot of interest in the set of slides and tapes for their own use.

Many educators are convinced that the use of slides and tapes is one of the most effective ways of teaching population education. Like-wise, the use of other modern educational technology, particularly video cassettes, in training and teaching, is becoming increasingly popular, largely because it is quite cost-effective. Many country projects have, therefore, acquired slide - projectors, tape recorders, cameras, video cassette recorders and monitors; and in some countries sophisticated VTR system have been purchased.

5.15 Conclusion

During the past decade, countries in the region with population education programmes have used different modalities of training of teachers and other personnel. These include face-to-face training, peer training, mobile training

teams, self-learning training modules, correspondence lessons, etc. The feedback received from the teachers and field workers from some countries shows that in many cases there is no significant change in the knowledge, attitudes and skills as a result of training in population education. The main reasons for such a situation are due to the relatively short duration of training programmes, lack of effective training materials and in some cases lack of expertise of trainers.

It was pointed out that training of teachers, field workers, training of out-of-school youth and adults is a continuing process. This process could not possibly be fully realized with one short training programme.

To provide training to the huge number of teachers and other personnel, many countries are conscious to seek and adopt such training modalities, which are economical as well as effective. There is a need to take a close look at the existing teacher training programmes and identify gaps and additional requirements. There is also a need to identify training modalities and training materials which are cost effective.

From the foregoing discussion it is obvious that the countries having population education programmes are using different approach and strategies of organization, curriculum planning and training of personnel. There is as yet no systematic study done in terms of the relative effectiveness of different approaches and strategies. The different operational issues discussed in this chapter provide some guidelines for the choice of approaches and strategies appropriate to the specific needs of the country.

6. FAMILY LIFE EDUCATION

The family is one of the basic institutions of mankind. However, many societal forces (e.g. modernization, working parents, liberalized codes of sexual ethics) are eroding the beautiful Asian Socio-Cultural family values. In few countries, family life education as part of population education is aimed at (i) a better understanding of the physical and emotional changes associated with growing up; (ii) establishing and maintaining personal relations and (iii) developing values and skills for successful marriage, child bearing, rearing and other aspects of family development.

In some countries where population education is erroneously perceived as synonymous to family planning and where the latter is still a sensitive issue, there has been a shift towards family life education. It has been observed that in such situation, fertility variables and other population factors are not reflected in a significant manner.

6.1 Fundamental Issues of Family Life Education

Adolescent fertility is an emerging concern in the developing countries relating to Family Life Education. Data from the Population Reference Bureau (PRB) in Washington, D. C. estimate that 60 percent of the population in developing countries is under 25 years of age and 40 per cent is under 15. At least, 13 million births occur to adolescents every year. Worldwide, there were about 245 million women aged 15-19. Eighty-two per cent lived in the developing countries and three quarters of them were to be found in Asia. This is projected to increase by 75 million in the developing countries by the year 2020.

While some countries still have a low mean age at marriage, the mean age at marriage in many countries is increasing. On the other hand, young people now-a-days are reaching physical maturity earlier as a result of improved nutrition and health. While the increasing age at marriage is fulfilling the attainment of delayed marriage, which is one of the objectives of population education. Late marriage is giving rise to some adolescent fertility related problems in some countries such as premarital sexual activity, teenage pregnancies, illegal abortions and illegitimate births. Teenage pregnancies and birth in turn are associated with increased health risks to the mother and infant, curtailed education, reduced employment potential, and high population growth rate.

In recognition of adolescent fertility or sex related problems there have been sporadic attempts in some countries to address this concern. In one or two countries in the region, some aspect of sex education have been included in population education. In several countries, sex education is pursued by voluntary and nongovernmental organizations, but their outreach is limited. In most of the countries, the education sector has been reluctant to go beyond the study of human reproduction in biology since sex education is a sensitive issue. Similarly, there is also some reservation on the part of population educators in most countries about dealing with adolescent fertility for fear that this might jeopardize the acceptance of population education programmes.

6.2 Ageing of the Population.

Now-a-days, more people are surviving to old age as a result of improved working conditions, higher standards of living, control of diseases and availability of health care. While the phenomenon of the ageing population is closely associated with the developed industrialized countries, it is also increasingly becoming a feature of the developing countries. The current estimate of “older” population, that is, people 65 years and over, in the developed countries is about 185 million or over 15 percent of the total population. While only 5 percent of the population of developing countries is in this age group. The absolute number of

older persons is already 230 million. Between 1985 and the year 2000. The developing countries this ratio was 57 percent increase in the number of older persons as against only a 26 percent increase in the developed countries. The 1985 ESCAP Population Data Sheet shows that 4.8 per cent of the population in the Asian and Pacific region belong to the age bracket of 65 and over. In absolute number this means a total of about 130 million elderly. By the year 2000, the percentage of the old population in the region shall increase to 5.9 per cent or about 200 million people.

The increase in absolute number of the older people will have wide ranging implications for the social and economic institutions in society and for the family. At the societal level, this increase would indicate a corresponding increase in the need for medical, housing, economic, and other social services. At the family level, this might indicate a changing pattern of roles, functions and relationship because families are becoming smaller, more mobile and independent of extended kin relationships and some of the responsibilities for providing security for the aged are shifting from families to government. In the traditional set up of Asian families, the elderly are looked upon to help care for the young, give advice and guidance in the light of their experience and wisdom. The young, in turn, respect the old and care for and support them when they are no longer physically capable of looking after themselves. However, there is now a growing tendency on the part of the younger members of the family to depended less and less on their elders for companionship, guidance and resolution of their problems and to feel that it is no longer their role and responsibility to support and care for their elders. The erosion of the Asian traditional values of respect and care for the elderly and the utilization of their experiences and wisdom in enhancing the quality of life of the family and the community is slowly but surely becoming barely perceptible.

6.3 *Urbanization/Migration*

There is a continuing rural to urban migration contributing to rapid urban population growth. The 1985 United Nations statistics showed that more than 40 per cent of the world population lives in urban areas. In 1970 the total urban population of the more developed regions was almost 30 million more than those in the less developed countries. By the year 2015, the urban population of developing countries is expected to be almost double that of the developed countries and by the year 2025 four times large. The urban population growth in developing countries and is generally concentrated on, the very large cities.

Implications of Urbanization on the Quality of Life

Although studies have shown that living conditions in cities compare favourably with rural areas, the blessings are mixed. Population growth is

straining the cities to the limit; it is enormously difficult to provide employment and income, housing, water, sanitation health and education. As always, the number of the poor grow faster and suffer the most. The most visible expression of the problems of rapid urban population growth is the acute shortage of housing or the prevalence of slum and squatter settlements and other facilities, such as electricity and necessary services. The overcrowding and poverty in slums, in turn, cause poor health and malnutrition. Social conditions in slums areas are also a threat to physical and mental health.

The idea of preparing educational programmes to prepare the families to cope with living conditions in a crowded world is a matter of great concern almost in every developed and developing country.

7. OBJECTIVE OF FAMILY LIFE EDUCATION

7.1 Concepts

Family Planning has to be lifted from its old and narrow concept and given its proper place in the overall philosophy of welfare. It must embrace all aspects of family welfare, particularly those which are designed to protect and promote the health of mothers and children. It must become a part of the total concept of positive health. At the same time, it must find meaningful integration with other welfare programmes, viz. child care and development, family enrichment, nutrition, food, clothing, shelter, availability of safe drinking water, education, employment and economic activities, women's welfare, more meaningful and relevant opportunities for everyone in all sectors-rural, semi-urban and urban, etc. In other words, its deals with Family Life in all its entirety and this is what Family Life Education must seek to impart alongside the development of action programmes as opportunities. We can say that family life education is a part of population education programme. It is concerned with family size, family enrichment, child care, nutrition, food, clothing, shelter, safe drinking water, education, employment and all relevant welfare opportunities in rural as well as urban areas.

The goals of family education are not easy to reach. It is only when there is a cause-and-effect connection made in the minds of people between their pattern of life, family formation and family size and their living conditions and opportunities will there be any effort to adopt practices such as family planning for their own welfare and improvement. When over a sustained period, there are factors like education for everyone, good health services, improved status of women, opportunities for employment and economic activities, social security and a more equitable distribution of wealth, people would begin to appreciate the

advantages of setting up definite patterns in their life styles. It is, therefore, essential that education for this purpose, at all levels of the community, must go hand in hand with efforts to improve social and economic conditions if it is to have positive and beneficial results.

7.2 *Family Life Education and Family Welfare*

Development programmes are commonly projected towards improving the “quality of life” for people and their families; in other word, it aims at improving the welfare and well-being of the people. These concepts imply economic, social/psychological and national factors related to all of life's needs: food, clothing, shelter, health and-general human fulfillment, environmental quality and national development.

i) Economic Factors

- a. adequate food of nutritious quality.
- b. supply of potable water and, in general, water to meet all needs.
- c. sufficient and suitable clothing and healthy living facilities.
- d. availability of preventive and curative health care
- e. cash or means of exchange
- f. family budgeting
- g. savings and additional means of income
- h. increasing ability to cope with needs and unexpected events.
- i. suitable, adequate and rewarding employment for those seeking it.
- j. better working conditions
- k. old-age and sickness security

ii) Social and Psychological Factors.

- a. capacity to meet emotional needs and for personal development.
- b. capacity to teach children how to adjust to life.
- c. capacity for helping the child develop mentally, physically and socially.
- d. time for leisure and relaxation
- e. sufficient possibilities for social, cultural and religious activities.
- f. ability to decide as a family unit on all matters in a rationale way.

(iii) National Factors

- a. reduce dependence
- b. functional literacy, better social amenities and services
- c. being conscious and having knowledge of one's environment and the capacity to improve it.
- d. being confident that a "better life for all" is being pursued.
- e. influence on issues affecting the country and sharing equitably in the benefits.
- f. influence on development programmes
- g. influence on and participation in economic activities.

From this list of interrelated factors, it is obvious that the size of a family will largely determine the extent to which these needs are met, given their level of resources. Since the family is both a producing and consuming unit, any change in the number composition and quality of household members possesses great implications for its well-being.

7.3 Family Planning.

Family planning education is a part of Family Life Education. It is a term used to describe the means whereby couples are able voluntarily to determine the number and spacing of their children through prevention or postponement of conception. It involves a conscious decision between a man and a woman before having sexual intercourse whether or not they want to have a child. They either decide to:

- a. have a baby: or
- b. if they do not want a baby right away, they use a family planning method to prevent the women from getting pregnant until they are ready for a child.

Effective family planning implies two things:

- a. "that the social, economic and health advantages and disadvantages of spacing and limiting the number of children are known to the couple; and
- b. that the means for spacing and limiting the number of children in the family are available"

7.4 Family Welfare and Family Life Education (Agriculture Based Community)

Family welfare and family planning are clearly two sides of the same coin.

As indicated, this will stem from the fact that people are both producers of their own welfare and consumers of it. Thus, the characteristics of a family, composition and distribution affect and are affected by the level of well-being.

An individual's demand for food depends on age, predominant activity, physical development and climate. Clearly, old people require less quantity of food than children and youths, Healthy working adults need considerable quantities of "good" food. Too much or too little food has adverse repercussions on whoever the individual is. Food, obviously, is a basic need concomitant with levels of nutrition and health.

When a family is dependent on a given parcel of land of produce their food requirements or is dependent on a fixed cash income to purchase foodstuffs, every additional member to the family unit constitutes another potentially negative element in the welfare matrix of that family.

Consequently, if a family is to adequately feed itself, they must either increase agricultural yields per existing unit area or expand their sources of income in order to cover the costs of purchasing more food. More often than not, of course, the amount of food produced per rural family member has dropped and inflation has wiped out the earning powers of the urban dweller. Under-utilization of labour, increasing marginality of holding; increasing landlessness, rising indebtedness (given escalating price rises for essential inputs-fertilizer, seed, irrigation, chemicals, fuel), non-availability of convenient credit, insufficient capital for reinvestment and lack of infrastructural support have adversely contributed to food production.

When there has been a reduction of land holdings association with continued growth in family size, it has been found that farmers out of sheer necessity have to:

1. cut down trees in order to clear the land and plant more crops, thus reducing a source of firewood, building materials, home made furniture and natural protection against wind, storm, erosion:
2. fill ponds for extending cultivation and thus destroying fish - a vital source of protein-and vegetation, so potentially useful for manure to the soil and food in times of shortages;
3. reduce the number of fruit trees and gardens to plant yet more crops, thus losing the fresh vegetables and fruit and the essential vitamins they contain and increasing the dependence on a carbohydrate diet and a single cash crop, and
4. extend housing and other infrastructure to meet expanding needs, thus lacking space for raising livestock poultry, etc.

Immediate manifestations for a family of a lack of good food are shown in increased infant mortality and rising incidences of malnutrition. Diseases and nutritional status are of course inextricably intertwined with the failure of food production to keep up with population growth. For the landless agricultural labourer, subsistence farmer or recent immigrant to urban slums, a growth in family size nearly always results in the average daily calorie supply per person falling below the minimum required for normal activity. And the larger the family the greater the chances that its members will suffer from some degree of malnutrition.

Particularly susceptible are young children and pregnant mothers. For an adult programmed into the permanent malaise of malnutrition, reduced activity and functional efficiency reduces employment opportunities and income. And if income falls nutritional levels fall with it.

Another prime cause of illness throughout the region is polluted drinking water. Again more than half the diseases affecting children and adults alike are water-related. Sanitation is an associated problem. The provision of food and a clean water supply so obviously essential for the well-being of any family, constitutes an enormous undertaking when population and family size increases rapidly.

Health conditions appear to be strongly linked to fertility and there is an obvious connection between the general health situation, high maternal mortality, high fertility and the need to practice family planning.

(1) Factors Associated with Family Life Education

Some of important factors associated with family life education, and need to be considered are:

- a) More maternal deaths occur among women who have had many children
- b) More babies or babies coming too quickly – especially among immature girls and women over 35 cause the mother to become weak or anemic. Pregnancies are a strain on the body and when associated with malnutrition the mother is extremely vulnerable to a variety of sicknesses endangering both mother and child;
- c) A weak, ill or anemic woman when she is pregnant often gives birth prematurely or gives birth to a nutritionally deficient child; and
- d) If one baby is born soon after another, the first will not have breast milk for long and this will make it more likely to be malnourished. Additionally, as the mother carries the new baby giving it most of her attention, the first baby is liable to be miserable and disturbed.

(2) Safety Needs and Family Welfare

Adequate clothing and housing are basic human needs required for survival. They are necessary to provide each family member with protection from extreme hot or cold temperatures, privacy and comfort. Children, especially, need a home not only to live in but also to have a secure, stable place of growth.

“When the family increases, it does not automatically bring about a proportionate increase in the amount of accommodation, because living space can more easily be shared than the other articles that a new child needs. Food, medicines and even education cannot be “consumed” by more than one person, but more and more people can live in a house, more and more children can sleep in a bed, or on the floor. What happens then is that as the size of the family increases, the level of overcrowding increases. In other words more people will live in the same space as before. It can therefore be stated that AN INCREASE IN FAMILY SIZE AGGRAVATES THE HOUSING SITUATION”.

(3) Financial Resources and Family Welfare

Cash or means of exchange is an essential requirement for a family's welfare if it is ever to purchase the goods and services it requires for its survival. As self-sufficiency becomes possible for fewer and fewer people, a family's capacity to make choices ironically becomes less and less.

(4) Self Actualization and Family Welfare

People require more than just life's necessities. The whole concept of family welfare implies that survival is not enough: life should not be a hard fought struggle from day to day. Social, psychological and environmental factors constitute elements of family welfare and are inalienable rights to be enjoyed. This, however, cannot be the case unless cash or some means of exchange is available to adequately meet these needs. Where there are more needs than cash resources available to meet them, the welfare of the family is under strain. Where there is insufficient resources even to meet the bare survival needs, the family faces severe physical deprivation.

Increased income makes possible a higher standard of living in terms of survival, security, social relations, and environmental control. It not only improves the family capacity to consume and save but enhances parent's perception of the value of each additional child. As a result, living standards, income-earning possibilities, the costs of education, marriage ability and employment opportunities are viewed in terms of current and anticipated resource availability. Such an appraisal invariably is associated with a desire to limit family size.

7.5 National Manifestations of the Linkage

In the widest sense, population growth and national welfare are closely linked. UNFPA, for example, no longer "... talk(s) any more in terms of family planning as an answer to population growth, because (they) realise that there is far more to population than family planning." Whilst it may be vital, indeed, to slow down the rate of population growth, they assert, "... its is now realized that the number of children a family depends on a very complex interaction, in which levels of education, the quality of housing, health and social security services play "a part, and which is tied closely to the form which overall social and economic development is taking".

Today, with more emphasis on self-reliance, social justice and decentralization (people's participation in planning and decision making) multi-sectoral population and family planning programmes involve a number of ministries, agencies and private organizations. Several Ministries have responsibilities for strengthening and supplementing population activities. Further, there are many other public and private institutions which are working to raise the quality of family life. In this regard, it is also important that community participation, at all levels, and the means to achieve one's aspirations need to be given a significant emphasis in this process.

7.6 Conclusion

The interrelationship between family welfare and family planning are vital elements of a Family Life Education Programme. By reducing family size, alone, it can hardly be claimed that family welfare will automatically be increased. However, increased family size does effect the family welfare and needs to be reckoned with when considering needs and resources. If socio-economic conditions of the family are to improve as a result of all round community development strategy as well as being a natural consequence of it. It is imperative to have efficient plans, because, without such plans a family's capacity to be self-supportive will be severely constrained. For these and many other reasons population education should be introduced at all levels of education. There are various approaches for introducing population education. It depends upon the situation, resources and need as to which approach is appropriate.

8. SELF ASSESSMENT QUESTIONS II

- | | |
|-----|--|
| Q.1 | Explain the concepts of Family Life Education, educational Technology ageing of the population. |
| Q.2 | Explain various modes of teachers training for teaching population related concepts. |
| Q.3 | What are the objectives and need of family life education? |
| Q.4 | For what reasons family life education should be part and parcel of population education. |
| Q.5 | Critically review the population conditions of the area of your residence and the need for introducing family life education and population education. |

CONCEPT OF POPULATION EDUCATION

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CONTENTS

	Page
Introduction	48
Objectives	48
1. The earth and population	49
2. Population increase and its implications	50
3. Need for population education	51
4. What is population education	52
5. Population education: its development	54
6. Objectives of Population Education	54
(a) Primary Level	55
(b) Lower Secondary Level	55
(c) Upper Secondary Level	56
7. Issues for the future of population education programmes	57
8. Population education contents for the future.	59
9. Contributions of population education.	60
10. Self-Assessment Questions -1	62
11. Impact of population growth	63
11.1 Population and food requirements	63
11.2 Health and population increase	63
11.3 Population, housing and transport	64
11.5 Population & educational development	65
11.5 Population and employment	65
11.6 Socio-cultural implications of rapid population growth	66
12. Nature of population education programmes and deviation from other related programmes.	67
13. Problems and issues in population education	69
14. Summary	70
15. Self Assessment Questions – II	70
16. References and Recommended sources	71

INTRODUCTION

Population Education is a comparatively new area of teaching. It has been understood and accepted in various countries and societies with various angles and emphasis while the general objectives and themes are almost the same. The theoretical frame-work of population education its objectives, programmes, activities and contributions have been highlighted in this unit. Effort has been made to introduce the concept from the broad base from where it emanates that is the realizing the severe implications of rapid population growth. The contents of the unit sequentially advance and contributions field have been spelled out. A special treatment has been given to the section where it has been explained how population education programmes differ from family planning, sex education, population studies and other allied but different fields. Assessment questions have been inserted at various places. In the end, the reference and recommended sources have been included.

OBJECTIVES OF THE UNIT

After studying this unit thoroughly you should be able to;-

1. Explain the phenomena of population increase and its implications on human life.
2. Explain and appreciate the need for population education programmes.
3. Discuss and state in detail the concept of population education.
4. Understand, appreciate and discuss verbally and in writing, the objectives and functions of population education.
5. Comprehend and explain the issues, contents and contributions of population education programmes.
6. Visualize and discuss the implications of rapid, population growth on food, health, housing, transport, education and socio-cultural aspects.
7. Differentiate population education from other population programmes.
8. Identify and discuss the problems difficulties and issues in population education programmes.

1. THE EARTH AND POPULATION

According to scientists, the Mother Earth is some forty five hundred million years old. Certainly, it is too long a span even to guess or imagine. Thousands and thousands species live on the surface of earth. The most rational and intelligent species ever born on earth is, undoubtedly, the human being. Through experience and intelligent guess the human race adopted better ways of life. With the increase in number as a natural growth, the human race grew into groups, tribes societies, towns, cities and states. The increase in population was very slow due to the reason that process of births was almost equalled by the number of deaths as a result of various reasons over which man had little control. With better ways of living, assured food supplies, ability to protect body through clothes and shelter, there came a revolution in human life. Every birth was an occasion of rejoicing and every death as an event of sorrow. These events had larger impacts on human life. They shaped the human thinking and ideas about life and its purposes.

The human civilization marched forward sometime slowly and sometimes quickly through several thousand years of history. During the past few centuries the advancement of human civilization gained considerable momentum. With the advent of steam engine and a series of other machines there came what is called the "Industrial Revolution". Simultaneously, rather preceedingly, there came a Science Revolution which was of great significance. With the better living conditions, health precautions, remedial techniques, medical and surgical advancements people looked forward to a fairly long life.

According to the reliable estimates, two thousand years ago the number of human beings living on Earth was nearly 250 millions. One thousand years ago, it was 350 millions. Five hundred years ago, the population was 450 millions. In the beginning of 20th century the human population on earth was 16.5 billion. Now it is estimated to be more than 50 billion.

2. POPULATION INCREASE AND ITS IMPLICATIONS

The Phenomena of population increase has been observed by the scholars, social scientists and policy makers and for the pass 200 years they started debating the question of relationship between population and development.

This relationship between population and development was one of the major issue on which discussions were held at the Bucharest world Population Conference in 1974. The developed countries argued that population explosion has seriously retarded the process of development. Measures to reduce birth rates and excess population growth rates would improve the quality of life of individuals and help social and economic aspects of development process. Most of the countries agreed to that and emphasized to expedite and expand the population welfare measures including population education, Family Planning, Family Life Education and Environment Education etc.

Population explosion has serious implications on social and economic aspects of life. Very serious questions arise out of the increased population situation.

This flood is running strongest in the areas of the world where living standard and resources per person are already at the lowest i.e. in the under developed countries of Asia, Africa and Latin America.

Economists, Social Scientists and Statisticians have already made it clear that if the present state of population growth rate continues, consequently we will be reaching a population bulk-point where the pressure on food supplies, employment opportunities income, housing, health resources, transportations, education and other social amenities would be intolerable. The current world scenario indicates that where there is the highest population increase, there is the highest unemployment, ignorance, poverty and hunger.

Rapid population growth is more evident in Asia and the Pacific Region than in other regions of the world. It is estimated that in the early nineties 58.8 percent of the world's population is living in Asian and Pacific (UNESCO Assessment). It is observed that if there is no sharp decrease in the birth rates in some Asian countries like Pakistan, Bangla Desh, India, Japan and China there would be a bigger proportionate percentage increase in the number of people living in this Region.

For this reason, many countries in the region have already adopted appropriate population policies and initiated many population welfare programmes. Two main approaches to check population growth have been launched. One familiar direct approach is “Family Planning” and the other Is indirect approach for the same purpose which includes the programmes of

“Population Education, Family Life Education, Environment Education and Sex Education” etc.

Population Education Programmes provide opportunities for learners to acquire the knowledge, abilities, attitudes, and values necessary for the understanding and evaluation of population situations, the dynamic forces that have shaped them, and the effects they will have on the present and future quality of life. Population education requires the most objective possible teaching-learning situation in which the teacher offers the learner a set of facts and values that will allow him or her to evaluate the whole range of options with respect to a given problem.

Various viewpoints will, of course, be given different emphases in the different population education programmes which carried out in various parts of the world today. Population education in schools takes a number of forms, moving from the introduction of population concepts at the elementary-and secondary-school levels to universities and specialized training colleges. For example, large-scale projects are being carried out in the republic of Korea, the Philippines, Indonesia, Malaysia, Thailand, Sri Lanka, Bangladesh, Pakistan, India, China and Japan. Outside the formal education system, there is also a great diversity of population education programmes which are of increasing importance since most population learning occurs in this milieu. Examples of population education in the nonformal sector can be found in Kenya as an integral component of the Programme for Better Family Living, in Sri Lanka as part of a workers' population and family planning education project, in Indonesia through the country's Pen Mas (community education) centres, and in Upper Volta in the form of seminars for high-level officials from number of ministries, and population education programmes through formal and non-formal system in Pakistan, India and Bangladesh.

3. NEED FOR POPULATION EDUCATION

For rational and informed decisions, the present and future generations must be provided with more knowledge about population growth, and its implications than they possess now. The majority of people in developing countries have bleak idea of the population problems and socio-economic implications of rapid and unbridled population growth.

This is an age of awareness, awakening and looking for the best and appropriate future possibilities. If an individual or a group of individual is fully aware of the problem and realizes the existing and prospective implications, the possibilities of coping with the situation increases manifold. The awareness and wakening about population issues do not just happen automatically or informally.

Deliberate efforts, serious steps and planned efforts have to be made to sensitize the people regarding the grave population situation.

4. WHAT IS POPULATION EDUCATION

Population education is a response of educational community to the population situation at a given point of time and place. The need and justification for population education laid down in UNESCO Source Book on Population Education is as follows.

“The consequences of population development for the socio economic and natural environment and vice-versa are of such significance that the new generations of young people need to be aware of them”.

Clearly, thus, if education is a potent agent of change to be used for improving the quality of life and aiding the processes of development, population and environmental studies should be the major elements of educational process.

Population education is basically an educational process whereby individuals learn the causes and consequences of population phenomenon for themselves, communities and environment. Through population education it is possible to provide basic information and create awareness of possible and effective means by which the society as a whole and individuals in particular can respond to population implications and eventually make rational and informed decisions in order to enhance the quality of life.

Population education emerged from a growing awareness of the importance of population phenomena in the world such as slow and rapid population growth rates, migration, and urbanization. Essentially it is an educational response to demographic problems. For example, a rapidly growing population may outstrip certain resources or make it difficult to meet basic needs such as jobs, education, and health care, resulting in a threat to the quality of life of people. A declining population or an aging population may be seen in some cases as a threat to a country's economy or vitality. Migration from rural to urban areas may deplete rural areas of human resources while placing a strain on urban social services.

It is said, that population education is not an attempt to develop a new discipline but that facts, theories and concepts are borrowed from a broad spectrum of academic disciplines and professional fields in order to assist individuals and societies to understand fully population interactions and the effects of population factors on the quality of these individual and their collective lives. Demography and folk demography do, however, form the core of the knowledge base on population education. The sum of all these knowledge bases is

referred to as population studies. Thus, population education embraces the field of population studies which comprises the body of knowledge, concepts, and theories that describe and attempt to explain the dynamics of human populations and their relationships with the social, cultural, economic, political, and biological environments. It involves looking into a wide range of population issues and is, therefore, much broader than family planning or demography.

Because of the nature of population education, a number of other educational activities inevitably share some of the contents associated with population education. The greatest confusion that arises concerns population education's relation to family-life education, environmental education, and development education. Family-life Education and Sex education do indeed share certain concerns with population education, such as human reproduction and life-cycle decision making, but they concentrate on interpersonal relations and in general have not concerned themselves so far with the consequences of population decision making on the wider society.

In rather different ways, environmental education and development education also make use of content drawn from population studies, especially which describes and analyses how population processes operate in order to understand better nature of social and economic development or the interaction of humans and the biosphere. However, differences in goals and objectives give population education a separate identification at the present stage of its development.

There is not sufficient material developed on population education. The problem stems from the fact that population phenomena affect so many aspects of life at so many different levels i.e. political relations, resources, the environment, health, social services, education, employment, human rights -that nations, regions, and individuals have differing viewpoints about population questions. These range along a continuum from those who see population growth as a crisis, as the primary cause of all other social problems, to those who seek to encourage population growth to help solve social problems.

There is no lack in the diversity of positions. Some contend that population is a false issue, fostered by some conservative and orthodox groups to divert attention from problems faced by developing nations. The real problem, they say, is not population growth, but the maldistribution of wealth and resources, the lack of integrated economic development, overconsumption, and the affluent life-style of many industrialized nations which pose a more direct threat to the preservation of environment and resources than the higher population growth rates of the developing nations.

5. POPULATION EDUCATION: ITS DEVELOPMENT

The idea of Population Education, though not referred to as such, came into being in mid-twentieth century. J.E. Jayasuria points out that in 1941 Alva Myrdal in her book "Nation and Family" suggested that education could influence the children through the schools and adults through other educational agencies to appreciate national population goals. In 1942, Kenneth Rehage wrote an article in "Social Education", a monthly journal of National Council for the social studies an expanded version of which appeared in a pamphlet in 1943 advocating the inclusion of population issues in the social studies curriculum. The concern at the time was the trend in U.S.A. towards a greater decrease in population.

Historically, the development of population education goes back to the 1940s, particularly in the United States and Sweden, when there was concern about population decline. However, in the 1950s and 1960s the main concern was that of high birth rates and growing populations. As a result, many family planning programmes were established. These programmes, especially in the developing world, were not highly successful. It appeared that they concentrated on adults who had to overcome deeply entrenched traditional learning. In 1962 Philip Hauser in his article "Population Gap in the Curriculum" urged the inclusion of population contents in the school curriculum. At that time concern was different to that of unprecedented rapid population growth.

Through the late 1960s and early 1970s, educational programmes were developed for children and youth whose reproductive years were still ahead of them and during this period the term population education was almost synonymous with school population education programmes. The content of population education was broadened, beyond the topics of fertility and growth, to include a much wider range of population processes and characteristics.

6. OBJECTIVES OF POPULATION EDUCATION

Different countries have launched population education programmes with different emphasis depending upon political, social and cultural values of the society. Some countries are explicit about contributing to decreasing population growth rate. Other countries, talk in general terms such as implications and impact of rapid population growth quality of life. Some countries focus on family life education while some emphasise the activities to sensitize people about matching, resources with population.

General objectives of Population Education however, include: the decreasing of population growth, imparting family life education, population distribution, quality of life. In view of different socio-cultural backgrounds and population politics of countries, population education programmes emphasize

different objectives.

Specific objectives may differ but general objectives of population education programmes may be as follows:

1. To develop awareness and understanding of population related problems in the local, provincial/state, national and world context.
2. To disseminate the phenomena of population change and identify its determinants.
3. To understand the concept of quality of life in different socio cultural settings.
4. To comprehend the inter-relationship between population change and different aspects of quality of life at micro and macro levels.
5. To understand the relationship between resources and population and the concept of consumption and depletion of resources as well as family welfare.
6. To appreciate, develop and review the population policies and plans.
7. To develop rational attitudes values and skills for taking responsible decisions, and actions regarding population, related issues.

The objectives of population education of various education levels may be generalized as below:

a. Primary Level

To develop in pupils:

1. an awareness of the population situation in the home; schools, village/town, district, state and country.
2. an awareness of the advantages of balanced population growth.
3. an awareness of population growth on socio-economic problems.
4. an understanding of the advantages of a planned family.
5. a realization of the importance of good health and the need for developing healthy habits.

b. Lower Secondary Level

To develop in pupils:

1. an understanding of country's population situation and the population situations in some other specific countries.

2. an understanding of the effects of rapid population growth on the natural resources, economic and-socio- cultural resources and economic and socio-cultural development in ones own country and in some other countries for the sake of comparison.
3. an understanding of the causes of rapid population growth and the major problems arising from over- population.
4. an understanding of basic demographic terminology and concepts so that they are able to understand literature and discussion on population.
5. the ability to collect and interpret elementary population data.
6. the ability to communicate their own views on population education.
7. an elementary knowledge of reproduction in plants.
8. knowledge of the population situation in the country including.

(a) *The distribution of population by*

- i) urban/rural areas
- ii) districts
- iii) provinces

(b) *Population density in*

- i) country as a whole
- ii) its urban/rural areas

c. Upper Secondary Level

To develop in pupils:

- 1) an awareness of the population situation through the study of
 - (a) demography (life, death rates etc.)
 - (b) resources (food etc.) in relation to population.
 - (c) the infrastructure of their environment e.g. water supply, sewerage, transportation, housing, schools, medical services, and recreational facilities.
 - (d) employment opportunities
 - (e) the national policy and efforts on population issues
 - (f) the economics of family size

- (g) the socio-cultural norms affecting family size.
2. A sustained interest in population studies through:
 - (a) study of factors affecting population in order to draw examples relevant to the home, community and nation.
 - (b) involvement in geographical and economic surveys
 - (c) visits, tours and active study of local population situations
 - (d) participation in competitions (art, essays, etc.) debates, talks and other forms of curricular activities in schools related to population.
 3. Rational and responsible attitudes towards population situations, viz.
 - (a) to show a concern for the welfare of the future generation.
 - (b) to be able to discuss and relate matters concerning population of the country, disturbance in the natural balance and factors of migration from crowded areas to less dense areas.
 4. Appropriate behaviour towards population issues existing in the home, community, nation and world.
 - (a) to be able to understand and interpret population data and literature.
 - (b) to be encouraged to express themselves, in all forms of media.
 - (c) to construct tables, charts and graphs to illustrate population data.

7. ISSUES FOR THE FUTURE OF POPULATION EDUCATION PROGRAMMES

As conceived by UNFPA the principal issues for the future of population education in the formal sector vary considerably among countries and regions but deal essentially with the same kinds of various concerns. That is, there are issues related to continued awareness creation and sensitization, co-ordination with other groups and sectors, teacher training, contents of population education, materials preparation and distribution, evaluation and research and institutionalization. Perhaps, the most challenging and pressing issue is the need to review and revise the conceptualization and contents of population education. The only important

effort so far made to provide a global conceptualization of population education, dates back to a 1978 study conducted by UNESCO. Many current projects are still largely based on approaches-defined in this study which are gradually becoming outmoded.

During the 1980, several important development and redefinitions have taken place in population education. For example, the relationships between population education and such fields as sex education, family life education and environmental education are more clearly understood. Also, the objectives of population education, including those concerning fertility, mortality and migration have become more precise, and new content areas have been incorporated into programmes, including responsible parenthood, family planning, self-esteem adolescent fertility, AIDS prevention and others. Similarly, learning experiences have been designed to eliminate stereotypes contribution to discrimination based on gender, and curriculum designs initially considered difficult to implement are now being adopted. Once they are consolidated and circulated, all these developments, occurring at different places in different parts of the world, will undoubtedly be a great value in the planning of new activities and improving ongoing programmes worldwide. The concept of quality of life, the core theme of population education relates to other aspects as figured below.



As issue closely related to conceptualization is that of how to update the content of population education, particularly in terms of addressing difficult or controversial issues such as human sexuality; adolescent pregnancy; which is

often accompanied by illegal abortion; and gender roles, rights and responsibilities. Of these, perhaps the issue of adolescent pregnancy is of greatest concern since it is emerging as an issue in a number of countries which have not previously identified it as a problem and, therefore, have limited experience in developing educational approaches to deal with it. This is a particularly complex problem in Asia, where there are many cultural differences between countries, requiring research and differences between countries, requiring research and different approaches in each case.

Among the most important new population education content is that dealing with gender-role stereotypes and responsibilities. A few countries have started to address the need to develop adequate approaches, concepts and materials on gender roles and issues. UNESCO is doing pioneering work in this area in Latin America. Development of population education content on gender roles will obviously be of significant benefit, to other fields now also starting to address the issue of how to best sensitize and train staff to incorporate gender issues into development activities. Finally, the question of what content and concepts school systems can afford to insert in crowded curricula needs to be carefully examined. Materials have been developed in many countries, but they do not always find their way into the textbooks or other “permanent” or required reading materials.

8. POPULATION EDUCATION CONTENTS IN THE FUTURE

There are a number of basic concepts, with universal applicability, which should be part of population education contents in the future. First, there is the importance of having respect for others, especially persons of the opposite sex. If children can learn this, and understand what it means and can develop this as a strongly held value, then they will be more likely to refrain from behaviour which is potentially harmful to others, it is particularly important that boys learn to respect the rights and feelings of girls and women.

Another equally important concept is the importance of developing self-respect and self-esteem. While this is pertinent to both boys and girls, it is particularly important for girls, and should be accompanied by exposure to the variety of life options (employment opportunities, etc.) which will be opening to them, finish their education and avoid early pregnancy.

Thirdly, children should understand that it is possible to plan. This includes the importance and feasibility of planning pregnancies. They should also understand that the children ideally speaking, are born out of a conscious, carefully thought out decision on the part of loving parents. The fourth concept to

convey is that behaviour has consequences. Since individuals can usually control their behaviour, they must accept responsibility for those consequences. If adolescents behave irresponsibly, for example, in the area of reproductive behaviour, they should understand that the consequences may be life-long implications.

Fifth, youngsters should be taught to appreciate the importance of postponing the first pregnancy. When children leave school, at whatever age they need to understand the importance of postponing the first pregnancy in terms of the benefits (health, social, economic) this planning can bring to them and their eventual offspring. This concept needs to be taught: early and it is one of the most important concepts in population Education.

Finally, children need to learn how to withstand social pressure. Social pressure can come from peers in societies where early adolescent sexual activity is popular. It can also come from parents, other relatives and neighbours who expect young couples to have their first child as soon as possible after marriage. Population education should help learners recognize these types of social pressure and help students deal with them in a responsible manner.

While, young learners can develop the ability, over time to analyse population issues and to see their role in shaping these issues, adults and out of school youth require understanding of the immediate relevance of population issues to their daily lives. By and large, these learners are already at reproductive age and they need sufficient information to enable them to control their own fertility and to make other population decisions such as those relating to migration. The content for this group of learners then, should be specific to their immediate needs. Meeting, their needs adequately will require an integrated approach so that young adults, such as couples about to be married, for example, will receive appropriate education in a timely fashion.

9. CONTRIBUTIONS OF POPULATION EDUCATION

Population education has been established as an important component of comprehensive population, policies and programmes. Moreover, population education has contributed in many ways to the overall educational process and, thereby to development itself:

- (a) It has incorporated and reinforced skills that are applicable to the daily lives of teachers and students. For example, well reasoned decision making, development of a critical awareness and strengthening of self-esteem are three examples of population education content that effect not only demographic variables but other areas as well providing the learner an opportunity to clarify

and strengthen values.

- (b) Population education has provided educational systems with the kind of interdisciplinary and holistic approach to a topic that those systems often lacked, though such approaches are indispensable for the eventual resolution of world problems such as food supply, environmental deterioration and energy resources.
- (c) Population education has helped to improve exchanges between the school and the wider community. Projects have included consultations with parents and community leaders and instructions on the inclusion of new themes in the school curriculum. In the same manner these projects have promoted the involvement of members of the community as teachers' aides, often boosting teachers' morale and helping them to improve relations with their students and communities.
- (d) Curriculum contents, by focusing on concrete, important individual, community and family problems, have become more pertinent to the needs of students.
- e) Population education has also helped shift the emphasis in teaching from a sole focus on children's acquisition of knowledge, to their active participation, thereby facilitating critical thinking, the formation of attitudes, evaluation of values and behavioural modification. In this way, population education has helped change perceptions of the importance of such external factors as "fate", concomitantly strengthening the learners appreciation for their own abilities, helping them feel that they can plan their futures and exert control over their lives.
- f) Population education has often added to the professional competence of school systems developing skills among teachers having little teacher training.

Beyond their educational contributions, population education programmes have also achieved remarkable success in sensitization and awareness creation at the national level through a strategy of well-planned seminars and workshops preceding the introduction of programmes.

10. SELF ASSESSMENT QUESTIONS - I

1. What is the estimated age of the earth?
2. What was the human population on earth in
 - (a) Two thousand years ago
 - (b) One thousand years ago
 - (c) Five hundred years ago
 - (d) in the beginning of 20th century
3. What was the major issue in Bucharest World Population Conference in 1974?
4. What is the assessment of population for Asia and Pacific Region if the present growth rate continues?
5. What is the response of various countries of the world to the population problems?
6. Define Population Education.
7. How Population Education programmes emerged?
8. Give a brief account of historical development of population education concept.
9. What are important objectives of Population Education?
10. What are the objectives of Population Education at primary level?
11. What are the objectives of Population Education at lower secondary level?
12. What are the objectives of Population Education at upper secondary level?
13. What are the issues for the future population education, programmes?
14. How is the concept of quality of life related with other factors?
15. What would be the contents of Population Education programmes in future?

11. IMPACT OF POPULATION GROWTH

The world has seen the biggest population increase during the last few decades. Since the second World War there has been an unprecedented population growth particularly in less developed regions of the world.

In the middle of nineteenth century there were one billion people living on earth. It took only a slight more than a century to add one more billion in it. Since then, after every twelve years one billion is added. According to the latest figures, now in 1993 the world population is crossing five billion and by the turn of the century it will cross the six billion mark.

This alarming increase has abused worldwide interest in the study of population dynamics and its impacts on socio-economic developments. The population boom has been recognized as the biggest problem and greatest impediment on the way of socio-economic progress by the most of developing countries.

11.1 Population and Food Requirements

Among the basic requirements of human beings is the food. It is the most important need for survival. Scarcity of food causes under-nutrition and malnutrition; and in case of its severe shortage incidence of sickness, starvation and premature deaths are common. There is a certain minimum requirement of food which all governments of developing countries are constantly endeavouring to provide through the huge investments made in agriculture. The rapidly growing population creates imbalances between the requirements and food supply. The total food supply does not satisfy the demands of the rapidly growing population of the world and the requirements are not met adequately. Very often, the people of under developed countries face the dangers of famine, starvation and deaths of poor and hungry people. The main reason behind such catastrophies is, usually, the shortage of food supplies. The human beings out number the availability of food stuff.

Human beings are not merely numbers. Their first basic need is appropriate and adequate food. So, the development planners are facing the acute problem of rapid population growth and inadequate food supply.

11.2 Health and Population Increase

Health is a word for physical, social and mental well-being of an individual with added spiritual elements. WHO define health as “a state of complete physical, mental and social well-being and not merely absence of disease of infirmity.

There are a number of indicators which refer to health conditions of a country. These include

- (a) Availability of qualified medical doctor (Doctor and Population Ratio)
- (b) Doctor and nurse ratio.
- (c) Nurse and population ratio.
- (d) Hospital Beds and population ratio.
- (e) Population and health institution ratio.
- (f) Population per birth attendant.

Availability of these health facilities are the indicators of health conditions. It is obvious that with the rapid population growth these facilities cannot be increased in developing countries. Therefore, the target of improving the quality of life always remains unfulfilled. Population boom thwarts the public health efforts.

11.3 Population Housing and Transport

The most important human need after food is the house and shelter for living. The most important human group is the family and household. The family thus represents a molecular unit of that society which, through the mechanism of its reproduction process, contributes to the growth of population and also fulfils a desired portion of its responsibilities to the young and old of the society.

Since a family needs a house, the fulfilment of this need contributes to quality of life. The increasing population in developing countries is exerting very high pressure on the existing housing stock which is growing very slowly. Household size or the family size is the simplest measure to assess population pressure. It is undoubtedly very high in under developed countries.

Population pressure can be measured by the average number of persons per room and number of rooms per housing unit. During the past few decades the average household density has increased manifold in the regions of the world where population growth is very high. The house-holds increase moderately while population grows very fast; the result is an every widening gap. Alongwith the need of more houses, the growing population need more and wider roads. More means of transportation are required. More fuel and more vehicles are needed. This state of the affairs has raised questions and concerns.

11.4 Population and Educational Development

Education has long been recognized as the central element in development. It is vital investment for any human resource development and for upgrading the quality of life. It is, therefore, considered to be the most powerful factor for any socio-economic development and welfare of the society and country as a whole. In the modern times, education has been considered as a basic human need and every Government is responsible to provide adequate educational facilities to its people. Education is also used as mean of meeting other basic needs in the society such as nutrition, health, housing, etc. Education accelerates and expands the socio-economic advancements.

Indicators of educational development include the literacy rate, participation rate at different levels, student, teacher ratios, national expenditure on education and the nature of educational activities and institutions. It is already very obvious that these indicators show a very poor condition of education in under developed countries where there is greatest population growth rate.

It is basically education which changes the attitudes and behaviours of the people towards modernization and the quality of life in general. Education helps to overcome poverty and reduce the family size. Keeping in view very crucial role of education, its relationship with population growth cannot be under estimated.

With the increase of population more schools, more teachers, more school buildings, more equipment and hence more resources are required. Where there is already low literacy rate the education badly suffers and people are left uneducated. Resultantly, on the one hand population growth rate increases and on the other the vicious circle of poverty takes the masses into its grips.

11.5 Population and Employment

The economically active population or employed labour force represents the main group of the society whose major function is to produce the goods and provide services to meet the requirements of all individuals of the society. Usually, the employed force ranges from adulthood years to the old age years.

Population growth rate has implication for employment. A growing population creates serious problems for all sectors of the economy, specially those sectors which are not growing fast. In developing countries where population grows rapidly, employment usually lags behind this growth due to slower growth of economy. Consequently, the Individuals face unemployment problem. With rapid population growth rate; the under employment and unemployments problems prevail. The most pressing need of the present times is to make the people aware of the gravity of the problem and sensitize them through population

education to make rational and responsible decision regarding population growth issues.

11.6 Socio-Cultural Implications of Rapid Population Growth

A high population growth rate creates a series of problems specially in raising the socio-cultural conditions and quality of life. The traditional joint family system behavioural as well as economic problems. Increasing dependency ratio compels families to have child labour force to supplement family income and as a result of that children impose tremendous burden on their parents. The population explosion brings, unemployment, ignorance, uncivilized and low quality of life. The big questions arises, should we allow such conditions to prevail and continue or as rational human beings we should adopt all possible measures to avoid such harmful effects of unbridled population growth?

12. Nature of Population Education Programmes and Deviation From other Related Programmes

In a UNESCO paper, population education has been given the following attributes:

- a) It is an educational programme designed to make learners understand the inter-relationship among population change/situation, development, and aspects of quality of human life.
- b) Its ultimate goal is to make learners contribute to the improvement of the quality of human life now and in some future time.
- c) It is a population problem centred, hence lends itself to discovery and inquiry learning processes.
- d) It is a value laden, hence more open to the use of values clarification approach to learning. i.e. to pose realistic alternatives, to examine consequences of each alternative, and to enable learners to make sound decision for action about population issues.
- e) It derives content from demography and population studies.
- f) It may include some concepts of family planning and sex education also. In many countries main programme thrusts are the following:
 - 1) Family life education
 - 2) Population and quality of life issues
 - 3) Sex education
 - 4) Family planning education

- 5) Demography
- 6) Population studies
- 7) Environment education

Family Life Education

The fact is that in the early years of schooling (i.e. primary school) micro level population concepts are the focus of the teaching/learning process. The learning process usually starts from those concepts that are within the range of the learners' personal experiences. The bulk of these micro level population concepts constitutes the core of family life education.

Family life education has been interpreted in many ways. At its most simple form, it connotes learning about the roles and responsibilities of every member of family. Such topics are usually the focus of population education/family life education in the primary school level.

Family life education, at the more involved coverage is perceived "as catering for individual needs leading to personal growth and enabling the individual to function as a responsible member of the family and society. This includes the ability to cope with the physical and emotional changes associated with growing up. establishing and maintaining satisfying relationship with family, friends and society at large, developing values and skills for successful marriage and child-rearing and playing positive roles with the family community and society in the face of changing social conditions." Much of the concepts embraced by this definition are taken up at the secondary school level and among out-of-school youth/adolescents.

Sex Education

In a few countries, sex education is offered at the junior and/or senior secondary school levels. This is usually in the context of the study of human reproduction, which is invariable, a learning unit in the biology course. It is often concerned mainly with human sexuality, human reproduction and sometimes ethical issues relevant to sex related morality.

Family Planning Education

This is synonymous to the educational component of family planning IEC. It is precisely because family planning IEC has an educational component that population education is juxtaposed with it. In

some countries, at the later stage of schooling when students are on the adolescent stage, family planning education is an integral part of the population education curricular offerings.

Demography

Demography deals with “the quantitative study of human population and the changes in them that result from births, deaths and migration.” This has long been offered as a series of courses in higher education in the 1970's, and demographic concepts constituted a major chunk of population education programmes (e.g. census, population composition size, distribution, fertility, growth rate, birth and death rate, migration, demographic transition etc.). Unfortunately, much of the demographic concepts were associated with the threat posed by massive quantity of population. Hence, the cliché at that time was “A small family is a happy family,” which runs counter to socio-cultural values of many countries in the region. Lately, the emphasis in many population education programmes are the aspects of quality of life.

Population Studies

This “Covers the body of knowledge concepts and theories which describes and attempts to explain the dynamics of human population and their relationship with the social, cultural, economic, political and biological environment.” In many universities, population studies stress the creation of new knowledge rather than the passing on of existing knowledge about population-related issues. Findings of population studies have been utilized to enrich population education programmes

There seems to be no doubt, however, that population education will remain the over-arching term for the educational programme design to help cope with population-related problems and the major substantive components of which shall include the following:

- a) family life education
- b) sex education
- c) family planning education
- d) demography
- e) population studies.

Putting all the above together, however, is not sufficient to cover all the substantive components of population education, in as much as none of the above

adequately deals with the interrelationship of population change vis-a-vis development and aspects of quality of life (e.g. economic development and aspects of quality of life e.g. economic development, education, environment, resources, employment, food and nutrition, health, housing).

13. PROBLEMS AND ISSUES IN POPULATION EDUCATION

Population Education is an innovative and recent development. It has been recognized, accepted and launched with various emphasis in most of the countries of the world. Various countries respond to these programmes with different strategies and approaches. This is due to the difference in socio-cultural reactions towards these programmes. Population education, although widely accepted programmes, is not free from difficulties, taboos and problems.

(i) Social Problems

In developing countries where there is low level of awareness, people have/with regard to population issue, their rigid attitudes indicates the strength of that family or tribe. They do not clearly visualize the implications of more number of human beings. Their perception about modern life is limited. They are adamant and behave stubbornly to all persuasions. They look towards population education programmes suspiciously.

(ii) Religious Problems

Orthodox and rigid sects of some religions erroneously think that all programmes which emphasize the reduction of human population growth rate are the efforts to intrude and trespass the natural and divine path of human growth. They hardly accept such educational programmes. Although on the other side almost all enlightened, far sighted and rational religious groups have supported and encouraged population education programmes. Examples of former groups can be observed in India, Indonesia, Pakistan, Bangla Desh, Iran, Malaysia, Sri Lanka, Japan, China and Korea.

(iii) Political Problems

Some politicians and pressure groups, under the influence of their socio-cultural background, do not support the population education programmes. They do not give up the traditional, conventional and out-dated-baseless value system. Resultantly the efforts of the Governments are affected and the required inputs are not provided. Such elements do not even allow to

learn from the experiences of other nations.

International Political differences and other issues affect the useful common and joint population education programmes.

SUMMARY

In this unit the concept of population education has been explained. It is, basically, an education programme to make the learners aware of the implications of high population growth and respond to such problems rationally and responsibly. Through population education the individuals, groups and societies are sensitized about the implications of rapid population growth and they are motivated and encouraged to adopt a responsible attitude for the purpose of improving their quality of life. Population education draws its contents from various relevant and appropriate fields for its implications regarding different aspects of life. Population education is different from demography, population planning, sex education etc. Although the purpose and theme of these areas of knowledge are similar, their approaches and contents are different. These programmes face different problems in different countries which include social, religious, political and local problems.

24. SELF ASSESSMENT QUESTIONS - II

1. What are the implications of high population growth for food and health?
2. What are the implications of population growth for housing and transport?
3. How is the education development affected by rapid population growth?
4. What are socio-cultural changes emerging as a result of population growth?
5. How employment opportunities are affected by increase in population?
6. How is population education different from Family Planning?
7. How is population education different from sex education?
8. How is population education different from demography?
9. What are the functions of population education programmes?
10. What are the significant problems and issues in population education programmes?

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**POPULATION SITUATION IN
SOUTH ASIAN COUNTRIES**

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Contents

S. No.		Page No.
	Introduction	76
	Objectives	76
1.	Population Phenomenon	77
2.	Significance of Population Statistics	78
3.	Global Situation & Trends	80
4.	Trends of Population in South Asian Countries	82
5.	Population Situation	83
	5.1 Afghanistan	83
	5.2 Iran	84
	5.3 Bangladesh	84
	5.4 Bhutan	85
	5.5 Maldives	86
	5.6 Nepal	87
	5.7 Pakistan	88
	5.8 Sri Lanka	90
	5.9 India	91
	5.10 Indonesia	92
	5.11 Malaysia	93
	5.12 Philippines	94
	5.13 Thailand	95
6.	Comparison and Situation Analysis	97
7.	Self Assessment Questions	98
8.	References	99

INTRODUCTION

It is now all too clear that rapid population growth increases the chances that resources will be over-exploited; which will ultimately drag the world into difficult sensitive, moral and cultural deterioration. We have studied these effects in previous units of this course. In this unit we shall study the situation and trends of population in South Asian Region in the light of global situation.

OBJECTIVES

Having studied this unit intensively, you are expected to be able to:-

1. Describe the significance of population statistics.
2. Analyse the global situation and trends of population.
3. Explain the population situation in South Asian Region.
4. Narrate the major courses of population explosion in South Asian Countries.
5. Compare and analyse the statistics relating to population in South Asian Countries.

1. POPULATION PHENOMENON

The ultimate objective of a country's development is to achieve a balance between human needs and aspirations to match the population, resources and the environment and to enrich the quality of life today and in future. It is, therefore, emphasised to minimize the effects of population increase by bringing into balance the population dynamics and the socio-economic development. These effects are already visible and threatening to the welfare of human and other species. The excessive rate of growth dwindles the ability of a nation's economy to absorb additional people and increase child dependency ratio and unemployment. The very survival of the human species, owing to limited resources available is becoming unsustainable, leading to wide spread poverty, disease, misery and famine. The growth increases population pressure which in turn creates the political instability. Most of the conflicts in the world are due to population pressure which compels and creates urge for capturing resources. Apart from the food resources the population crisis in developing countries is rapidly becoming crisis of the rest of the world's environment. Developing countries now produce more than one third of the world's carbon dioxide, but by the year 2025, effects of rapid population growth could raise their share to two third. The same applies to depletion of the ozone layer.

Apart from it, population growth creates overcrowding which brings a host of general disadvantages to the quality of natural and social creativity and economic productivity of human resources. This situation exists by and large similar in Asian Countries which covers the largest part of the world's land area of earth and are thickly populated. Realizing the explosive situation of population and its consequences efforts are being made to minimize the population pressure causing environmental problems like land degradation, deforestation, air and water pollution and crowdy, noisy atmosphere.

Activity:

In the introductory description of population phenomenon you have studied global effects of population increase. Please write down at least five effects of population increase in your country.

2. SIGNIFICANCE OF POPULATION STATISTICS

Population statistics bring the picture into focus by illustrating the possible paths along which population grows. They provide planners with a framework to anticipate the future consequences of current fertility and mortality pattern, as well as the effects of changes in future. The results of present day population policies or lack thereof may not be felt until near future.

The population statistics provide foundations to policy makers about the future provisions needed in social sector i.e. the number of women and children who need health care services, the number of young children who need schooling, the volume of new job opportunities that will be needed for new workers, etc. Development policies are designed on the basis of population statistics. It brings forth the global situation to decide the world's possible future population size. The spatial implications and environmental consequences can be studied through statistics to protect from adverse effects of population growth and to keep the most conducive balance in population resources and environment. The various common denominators concerning country's well being get their preamble from the population statistics and vice versa. Let us study these relationships of population statistics and other social denominators in details.

2.1 Population, Environment and Development

In any country and area, high rates of population growth and concentration caused environmental problems, such as forest depletion, endangered wildlife degradation of land resources mismanagement of water resources, environmental pollution, health and sanitation. All these problems need to be minimized by the government through its available resources. Without proper information, it is not possible to keep the pace of environment and development favourable. Moreover, this knowledge may be used in formulating policies and strategies for developing appropriate analytical tools and measures of future. A comprehensive data on key aspects of population and resource linkage, provide a support for implementation and management of appropriate technologies and consequently to improve the quality of life. On the basis of data it becomes possible to develop appropriate interdisciplinary programmes for community development. The information, education and communication activities need to be linked and supported.

2.2 Urbanization:

Population movements to urban areas has given birth to complex social, economic and environmental problems. The increasing number of migrants has become an important challenge for policy makers and planners. They need to know the statistics to develop linkages between rural and urban areas in such a way that the sense of deprivation and isolation do not exist. Looking at the

statistics of labour force, shortages and surplus need to be identified and thus better matching of distribution of the job opportunities and labour supply be effectively arranged. Keeping in view the statistics, the government could motivate the private sector to invest in smaller towns to support the population. The trend of urbanization needs to be visualized by town planer well in time in order to keep in view the requirements of future increasing population for providing proper facilities such as transportation, schooling, health, sanitation and maintenance of law and order situation.

2.3 Family Planning, Maternal and Child Health (MCH)

The success of family planning, maternal and child health programme is based on population statistics. The success of any programme mainly depends on careful planning. Accessibility and utilization of family planning and MCH services and logistics to the clients be made available only if due consideration is given to the statistics. An up-to-date information may help the management to provide timely and good treatment and advice to the clients. On the basis of information, institutions providing training to health professionals can incorporate the necessary changes in their syllabus.

2.4 Population and Human Resource Development

People are the most important and valuable resources that any nation possesses. It is important, therefore, that all the individuals be given the opportunity to make the most of their potential for the enhancement of social and economic development of the community as a whole. It is a fact that quantitative demographic factors play an important role in human resource development because of their inter-relationship with employment, education, skill and capability development. To ensure that human resources are developed to the maximum, planners and policy makers have to be aware of changes in demographic situation of a country.

2.5 Population and Women

Demographic data help in understanding women's status and thus help in planning welfare programmes for women and their participation in the development process. Effects planning for integration of women in all sectors of national development including the activities in home can be formulated the light of demographic data.

2.6 Population and Poverty Alleviation

The living conditions of the people could be improved by formulating effective strategies and measures by government to alleviate poverty in the light of statistics. Through family planning and MCH strategies the population growth

can be slowed down. Equity in the allocation of resources and access to services be channalized by restructuring the priorities in favour of the under privileged.

2.7 Resource Mobilization

Keeping in view the population statistics, policy makers could suggest mobilization of additional resources to priority areas. These resources can be transferred to population planning as well

2.8 Future Policies and Programmes

Future planning plays a pivotal role in the prosperity of any nation. The goals of development can be achieved by keeping in view the present population situation and its trend. For the planning to be effective, it is essential that population growth rate is made compatible to available resources. It will help to improve and sustain a better quality of life of the masses.

2.9 Activity

List the areas in which population statistics can be helpful.

2.10 Self-Assessment Questions

1. Write down the significance of population statistics.
2. How do population statistics help the town planners?
3. Why should the policy makers give consideration to population statistics while formulating policies for human development?
4. Is it possible to alleviate poverty in the light of population statistics? Discuss.

3. GLOBAL SITUATION AND TRENDS

In the early part of 1992, the United Nations (U.N.) released, for the first time in 10 years, a new set of long range global and regional population projections up to the years 2050. These projections reveal current fertility and mortality patterns, as well as the effects of changes over the next 25 to 30 years. No doubt, the worldwide population growth has declined from its historic peak of 2.0 percent per year in the late 1960s to 1.2 percent today. The figure of 1.2 percent has thus a historic value in the present scenario.

Although there has been a significant decline in the pattern of world population growth (shown in the table 1.2 given below) over the past two decades, the growth rate in some of the developing countries of high fertility rate are still not likely to decrease very soon.

TABLE: 1

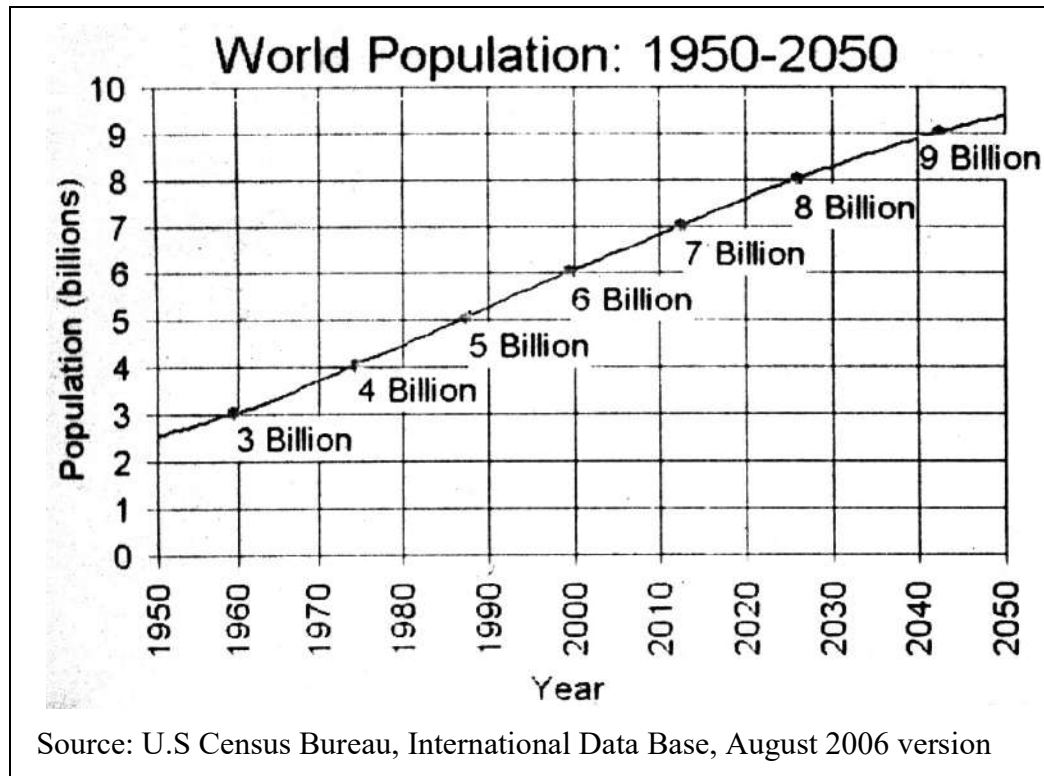


TABLE: 2

Average Annual Rate of Population Growth (1950-2050)

Region	1950-60	1960-70	1970-80	1980-90	1990-2000	2000-10	2010-25	2025-50
World	1.7	2.0	1.8	1.7	1.4	1.1	0.9	0.6
Less de. Countries	2.0	2.4	2.2	2.0	1.7	1.3	1.1	0.7
More de. Countries	1.2	1.0	0.7	0.6	0.4	0.3	0.1	(2)

Global demographic situation reveals countries such as European and North American states, Australia and Japan which have low, zero or negative population growth with stable or slightly decreasing level of consumption resources. Some countries like Indonesia, Brazil, South Korea and Mexico can be associated with rapidly declining average family size, increasing urbanization and improvements in quality of life for a large proportion of their population. This has resulted in increasing per capita consumption of resources. There is also a group of countries in which the rate of population growth remains high which prevents alleviation of poverty and an overall improvement in the quality of life. Resources of these countries are hardly sufficient to meet the basic needs of their population and dream of sustainable development may not become a reality if this situation continues.

The population of countries in Asia and the Pacific region was 3.2 million in mid 1992 with the growth rate of 1.7 percent and 920 million people are expected to be added to the region's population by 2010. The bulk of increase will occur in South Asian Countries and least developed countries where annual population growth rate is not expected to fall below 2 percent. In these less developed countries, problems of poverty are the most serious. It has increased great pressure on education, health and employment. The principal demographic characteristics of Asian by regions are given in table (3).

4. TREND OF POPULATION IN SOUTH ASIAN COUNTRIES

During the early 1980's, birth rate was about 21 per 1,000 percent in South Asian Countries. Family planning programmes have been effective in several South Asian Countries, notably in China and South Korea. The latest growth rate in these two countries is 0.3 and 0.4 respectively. However, in most of the remaining countries the rate of population growth was high. Very rapid growth prevented these countries from alleviation of poverty and an over all improvement in the quality of life. Most of their resources are used to provide basic needs and there are hardly any resources for development. Table 3 reveals the overall situation of South Asian Region as compared with other countries. The governments of these countries are taking decisive steps to make population education an integral part of curricula at different levels.

Item	World	Asia	East Asia	S.E. Asia	South Asia	West Asia
a. Growth rate (%)						
1970-75	2.0	2.3	2.1	2.4	2.3	2.9
1980-85	1.7	1.7	1.2	2.1	2.1	2.8
2002-2003	1.3	1.6	0.6	1.6	1.8	2.0
2005-06	1.2	1.2	0.5	1.4	1.7	2.0
b. Total fertility rate						
1970-75	4.4	5.1	4.4	5.4	5.7	6.0
1980-85	3.5	3.5	2.3	4.1	4.7	5.2
2002-2003	2.8	2.6	1.7	2.7	3.3	3.8
2005-2006	2.7	2.4	1.6	2.5	3.1	3.4
c. Life expectancy at birth						
1970-75	56.6	55.6	63.6	51.5	49.3	56.3
1980-85	59.5	59.1	68.4	57.1	53.5	61.0
2002-2003	67.0	67.5	72.0	68	62.5	68
2005-2006	67.0	68.0	73.0	69	63.0	69
d. Infant Mortality						
1970-75	93	97	61	96	136	118
1980-85	78	83	39	73	115	81
2002-2003	55	54	32	41	69	47
2005-2006	52	49	25	34	64	42

TABLE 3

Principal Demographic Characteristics by Regions of Asia

Source: World Publication Projects: Estimates and Projections. United Nations Publications. X10.86 XIII.3.

4.1 Fertility

Current fertility rate averages about 2.4 children per woman in the Asian and Pacific region. However, there are substantial variations between and within the sub regions of Asia and the Pacific. Fertility is lowest in East Asia, at 1.6 children per woman. It is highest in South Central Asia, at 3.1 children per woman. A similar marked disparity is exhibited in sub regional levels of mortality, for example, infant mortality in South Central Asia is 64 per 1,000 births which is more than two times the rate in East Asia, where it is 25 per 1,000 births.

In many countries of Asia and Pacific regions, urban populations are

expanding at three or four times the rates of the national population. The region will witness a significant increase in the number and size of urban areas. Furthermore, new issues such as pollution, ageing, imbalanced population distribution and international migration are emerging and require priority consideration in national development planning. Some countries have achieved slower population growth and better environmental management, for example, Thailand, Malaysia and Indonesia managed to reduce their fertility rates by 25-35 percent in only one decade. The situation of population in South Asian countries has been discussed in details in the pages to come.

5. POPULATION SITUATION

5.1 Afghanistan

Demographers and population policy makers in Afghanistan and those at international level are eagerly awaiting for peaceful settlement of the Afghan's crises i.e. American involvement.. Since the creation of present uncertain situation in the country, it has become nearly impossible to gather complete data regarding fertility and infant mortality. According to Population Reference Bureau (PRB) in the year 2006 the population of Afghanistan is 31.1 million. The population is projected to be 50.3 million in 2025 and 81.9 million in 2050 respectively. Up till now, no systematic and regular steps to regulate the efforts of population studies have been taken by the government. However, some voluntary foreign agencies have initiated programmes of social welfare for Afghan refugees and other scattered population and likewise are trying to promote greater harmony between population, resources, environment and development to achieve improved quality of life on sustainable basis.

5.2 Iran

According to Population Reference Bureau 2006, population of Iran is 70.0 million with the rate of natural increase 1.2 percent. The population of Iran is projected to be 101.9 million in the year, 2025 and 89.0 million in the year, 2050 respectively. Although rate of population growth was high in 80's and 90's, the latest figure (1.2%) shows that there has been substantial decline in this rate. These might be due to the motivational campaign arranged by the Government to reduce the high growth rate as it was bound to result in serious.

5.3 Bangladesh

Religious background

In Bangladesh, the religion scholars were involved in the campaign of population education in early 90's and the results have been very encouraging.

Due to participation of religion scholars and other community leaders in population education programmes, the population growth rate of the country has considerably decreased.

Bangladesh is a country of some 144,000 square kilometers. Out of the total land surface, agriculture occupies 60.05 percent, forests 14.90 percent, settlement 18.50 percent and other miscellaneous lands including waste land occupy 6.55 percent.

Bangladesh is the only Muslim country where there is positive participation of Molana's or Ullama (Religious scholar's) to stimulate the population education vision among the population. Due to which the degree of motivation towards the population education has been remarkable increased. The country is in the tropical region and the climate is moderate. The economy of the country is predominantly agricultural, the share of agriculture in the GDP being about 50 percent. The cultivable land area is about 8.4 million hectares (mha) and out of this arable land, only 0.6 (mha) are single cropped. Rice covers about 83 percent of the total cropped area. Since most country is part of an ecologically dynamic delta which has a wide array of agro ecological conditions, many rural households depend on a highly diversified strategy of homestead gardens, horticultural production, forestry production collection, livestock raising, fishing and off-farm employment in addition to rice cultivation.

Of the many problems that impede and retard development, the government of Bangladesh maintains high population growth as the 'number one'. Bangladesh today has a population of 146.6 million and this makes it one of the most densely populated countries of the world. The situation has become all the more disturbing but the annual population growth rate has been currently reduced at 1.9 percent. The country has a low level of literacy underscoring a poor human resource position. The rate of literacy among adult population is nearly 43 percent. Literacy rates vary significantly between men and women, as well as between urban and rural areas of the country. The poor-human resource position necessarily makes the environmental and natural management issues i.e. the population pressure, urbanization, pollution, deforestation and natural calamities rather difficult calling for deeper Insight and thoughtful actions on the part of development planners in Bangladesh.

The national population education programme was launched in 1974. The programme intended to help students recognize the impact of accelerated growth of population on every sphere of social life and thus to acquire ability to take correct decision in solving the problem at family level and also at social and national levels.

During the first and second five year plan periods, the Population Education Programme was launched as a new project. The population education elements got

into the school curriculum and instructional materials. As far as the third five year plan is concerned the population education programme was not in operation. However, during the fourth five year plan the Government has taken up a population education concepts and issues by concentrating on the population messages in the discipline of social sciences and sciences only. Further, project activities will comprise in-service training of the teaching force now engaged in the primary and secondary schools.

5.4 Bhutan

Bhutan is one of the South Asian country. It is the country which has been facing challenges of modern world. It is actually agro based country. But primitive ways of agriculture and lack of mechanical and economic prosperity, Bhutan is not getting progress in contrast of other neighboring countries.

Secondly, the influence of India also plays a vital role in the political and other fields of life. Increasing population is also an aspect of the less growth of this country.

Bhutan covers an area of about 47,000 square kilometers extending 320 kilometers east to west and 145 north to south. The population of Bhutan in 2006 was estimated to be 0.9 million. The birth rate was 20 per thousand, the death rate 07.0 per thousand and the infant mortality rate 40 per thousand. The average annual growth was estimated to be 1.3 percent and total fertility rate 2.9. If the population continues to grow at the same rate, it will double in the next 35 years. With the current fast decline in Infant mortality rate owing to the improved health services and mother and child health care programmes, the total number may double in 23 years. The population density is 49 per square kilometer, if the entire land area is taken into consideration,

The population size is not regarded as a matter of concern but the future implications of growth rate, the growing unfavourable sex ratio against females, the increasing number of young population and the considerably high total fertility rate are viewed as potential indicators of worsening population situations. It has been aptly realized that while the natural resource base in Bhutan is still generally healthy and the problem of over population has not afflicted it so far, the country may face increasing pressure of human and live stock population on forests and grazing lands in the near future. The total population of live stocks is estimated at 7,00,000 of which about half are cattle. This number itself has been putting great pressure on the existing grazing lands and has led to the onslaughts on the forests. Since the number of live stocks grows with the increase in the human population, the situation might become unmanageable for the future generation. It is in this context that the RGOB appreciated the need to introduce population education

aimed at making aware the people in general and students in particular of the implications of population related issues and problems. Thus population education elements are suitably integrated into the syllabi of elected subjects being taught to the students at all stages of school education, pupil teachers of pre-service teacher training being the training courses of health workers. The messages of population education are to be communicated to the community also through articulate and motivated community leaders.

5.5 *Maldives*

The Republic of Maldives is a Muslim country of approximately 2000, coral islands out of these 200 are inhabited and grouped into 19 administrative Atolls. The country is situated in the Indian Ocean, South-West of the Indian Sub-continent, spreading over a geographical area of the Indian Sub-continent, spreading over a geographical area of 90,000 sq. km. The islands are very small and low-lying; very few are more than 2 meters above sea level. The total land area of the country is around 298 sq. km. The population of the Maldives is 0.3 million (2006) and is scattered thinly over the inhabited islands. 100% population is Muslims. Fishing is the main source of earning. Maldives is full of natural resources. However, the capital and the seat of the government from the very beginning of the country's known history, has a population of 56,000 (1990). The growth rate is 1.5 percent and total fertility rate per woman is 2.8 (2006). A national syllabus of Environmental Studies (together with other subjects) for primary schools was developed by the Ministry of Education in 1982, and was implemented in all the primary schools in the Maldives, beginning in 1984. The subject is taught in English, in the English medium schools, in the Dhivehi medium schools. With the implementation of the Population Education Programme in Maldives, in 1984, a need was felt to include the Population Education concepts in the Environmental Studies syllabus. Topics under which these ideas could be incorporated were identified and content such as problems encountered in the conservation of the environment due to centralized population and migration to Malé (the capital) were included in the pupils materials for grade 4 and 5. The Current Environmental Studies Syllabus was reviewed and revised by the Educational Development Center, in September 1991.

The Government of Maldives with assistance from UNFPA and UNESCO launched the National Population Education Project (NPE) in 1984. Phase I was aimed at integrating population education in the primary school curriculum, and the orientation of teachers and primary school administrators. Population education is also integrated in pre-service and in-service programmes. All the materials developed for the primary schools have been integrated into the school syllabus and text books. Phase II is directed towards the integration of population

education in the secondary school curriculum and the on-formal education (NFE) curricular, and the orientation of secondary school teachers and non-formal education workers. The curriculum for both the secondary schools, and non-formal education have been developed, and will be integrated in the curriculum, for out-of-school population. Since the major constraints appear to be in the delivery system for the out-of- school population in the Islands, mainly due to inadequate infrastructure for the delivery of non-formal education in the Island, distance education is being considered as the key strategy n the education for out-of-school population.

5.6 *Nepal*

Nepal is a sovereign independent Hindu Kingdom, situated on the Southern slopes of the mid-Himalayas. The formidable range of eternal snows. Nepal, occupying an area of 147,181 sq. km., is a country of physiographical extremities and biological diversities. Nepal is a landlocked mountainous country, where 93 percent of the population is engaged in agriculture. The population growth is 2.2 percent per annum. The curriculum on population education for grade IX & X has been developed which contains 60% population education; 20% Maternal and Child Health and 20% environmental education. The curriculum has been formed on current environmental problems mainly community and family levels, the possible ways for improving the environmental activities and current programmes of various government agencies for environmental protection. Field visits and practical activities will feature as additional instructional methods besides classroom lectures. It is highly influenced by India. There is always an attraction for Tourism. India has different sort of involvement in this country.

The programmes and activities accomplished so far in the formal and non-formal education systems include, among other things:

1. Integration of population education contents into the curricula and textbooks of formal and non-formal education.
2. Development of separate curricula and textbooks in population education for use at secondary level.
3. Development of national source book and teachers guide in population education.
4. Development of population education curricula and textbooks for certificate and bachelor level of education.

While the population education project has made significant gains, it

has a long way to go to achieve the desired goals and objectives.

5.7 *Islamic Republic of Pakistan*

Pakistan ranks as 6th biggest country of the world in respect of population. Population of Pakistan has increased from 113.78 million (estimated) since 1947 to 165.80 million within the period of 60 years. The existing population growth rate is 2.4 percent. If this rate continues, the population of the country will be 228.0 million in 2025 AD and it would further grow to 295.0 million in 2050. Population density is 539 SKM. Three million people are added in the population each year. Each family in Pakistan has on the average 6 children.

Population of Pakistan is 2 percent of the total world population while its share of landmass is 0.6%. Total area of land is 796005 SKM. Per capita income is US \$2350. High population growth rate places a burden on house-holds and leads to the perpetuation of poverty of a large proportion of population.

With limited resources, the high population increase in Pakistan has resulted in unemployment, over-crowded cities and towns, urbanization of consumer goods, crowding traffic, busy roads, low quality of life, inadequate health housing and educational facilities. Dependency ratio is on the increase. Today there are 65 people in the work-force to support 100 dependent children. With continued rapid population growth, this ratio would be shortly 40 workers to support each 100 dependent children. All efforts to provide full coverage of education facilities to the whole population are being thwarted by rapid population growth. Present literacy rate is estimated to be 53 percent.

The health facilities are not increasing in accordance with the increase in the size of population. For rational and informed decisions, the present and future generations must be provided with more knowledge about population change and its implications than they possess now. The vast majority of illiterates in Pakistan has only a bleak idea of the population problem and its future implications. Population problem is clearly the priority area of the government. Realizing the gravity of the population problem in the country, governments have given special attention to increasing the level of investment in the Population Welfare Programmes. The emphasis of population welfare programmes is on lowering the highest growth. The social scientists, demographers, economists, health specialists and educationists whose contributions have led to identifying the magnitude and seriousness of the population problem have been involved. They have channalized the activities in the right direction. Population Education was accepted as a whole valid academic area and the concept was added in Teachers Training Curricula in

1974 under the heading “School Community and Population”.

Population Education Programmes in Pakistan:

From the very beginning the Population Welfare Division, Government of Pakistan, took the responsibility of introducing and launching

Population Education Programme was institutionalized and undertaken by Ministry of Education on systematic basis for the first time in 1983 with clearly stated objectives and well defined activities. Population Education Cell was established in the Curriculum Wing, Ministry of Education, with trained manpower and necessary infrastructure to introduce, popularize arrange and monitor the activities on Population Education on regular, effective and strong footings. In 1983, the Ministry of Education undertook the task of introducing Population Education in the formal school system. Population Education Project was placed in Allama Iqbal Open University to train the middle and secondary school teachers for teaching Population Education concepts. The Population Education Cell established in the Curriculum Wing, Ministry of Education, "undertook the responsibility to introduce and popularize the Population Education in the formal school system. Evaluation studies and researches were conducted to obtain feedback which revealed the effectiveness and impacts of Population Education activities.

The deeper and wider coverage to the on going activities and proposed some innovative and significant programmes of Population Education were given in the 8th five year plan. Thus a positive and imperative impact is expected to develop as a result of intensifies population policy.

5.8 *Sri Lanka*

The Democratic Socialist Republic of Sri Lanka comprises the main Island of Sri Lanka and several small off-shore Islands that stand on its continental shelf. The main Island covering an area of 65,610 square kilometers lies in the Indian Ocean between latitudes 5°51' and 9°51' N longitudes 79°41' and 81° 51' E. It is separated from the South Eastern coast of India by the Palk Street, a strip of shallow sea, a mere 40 km wide. The islands maximum length is about 435 km and its maximum width 225 km. Sri Lanka with a population of 19.9 million has a population density of 784 per square kilometer. The annual growth rate is 1.3 percent and the fertility rate is 2.0 per woman. A variety of climatic regimes determined by the geographical position of the island and its topography, prevail within the country. The State has recognized the importance of protection and improvement of natural environment and given constitutional recognition. As a response to the constitutional demand, the investment in education and successful

family planning programmes has reduced the annual population growth rate. The crude birth rate of 21.3 per thousand is one of the lowest in the region.

Several approaches were considered for the introduction of population education into the curriculum but the approach adopted was one of infusion into the existing syllabuses. The subjects chosen were First language, Mathematics, Science, Social Science and Health Science. Later, in order to have a better impact, the subject area were reduced to two; namely Science and Social Studies and the topics were collected into coherent units and gathered into 30-40 page Supplementary Readers, These readers were given to pupils (10 per class) for reading at home as well as in the class, on a read and return basis. In view of the high literacy rate of the country were exposed to all the major issues with pros and cons given due weightage. The issues involved were: the resources of the country, (land, water, minerals etc), and their finiteness (food production, increasing the productivity of land, food values, cost of producing various kinds of foods in resource expenditure terms, pollution, sanitation, public health etc). In order that a quantitative grasp of population and resource related matters could be obtained concepts such as rates of growth of population etc, were introduced.

5.9 India

India is a country which has wide variation in climate and terrain; the present total population is 1121.8 million. The natural increase is estimated at 1.7 The present literacy rate is estimated to be about 59 percent. It was during the late 1960's that population education emerged as an educational response to population problems. However, the operationalization of these concerns materialized in 1980 with the launching of the National Population Education Project with funding from the UNFPA in the School Education and in the Higher Education System started only in 1986. Currently, different specific educational sectors mentioned above, are engaged in the project.

In the school education and non-formal education the programme is being implemented in 28 States and Union Territories through multiple agencies including All India Radio and Doordarshan (TV).

The major achievements include:-

- (a) Curriculum and Materials Development in over 400 titles in 17 Indian Languages.
- (b) Over a million teachers, teacher educators, key persons, etc. have been trained. The population education elements are also being integrated into the pre-service training.
- (c) Evaluation Tools to evaluate curriculum, textbooks, training

programmes and classroom lessons and awareness tests were developed at the national level. In 1984, an Evaluation study was conducted by the NCERT. In 1989, the International Institute of Population Sciences did an evaluation.

In adult education which has been implemented in 15 states, the progress is as under:-

- (a) Population Education Cells provide the needed instructional facilities in the State Resource Centres (SRCs). These SRCs have brought out motivational, instructional and post-literacy materials on population education.
- (b) The content areas of population education have been integrated in the training curricula of adult education functionaries both pre-service and in-service.
- (c) Regular in-house reviews of the progress of the project are conducted but the first formal mid-term evaluation is scheduled for the end of 1990.

As far as the higher education is concerned, the population education programme, at this level is being implemented through 12 population education resource centres (PERCs) which provide technical support services to all the universities/colleges in the country. These technical support services cover curriculum development, training, material development, research, monitoring and are involved in community activities, particularly among the deprived sectors.

5.10 Indonesia

Indonesia is the largest Islamic country. Population education has been introduced in Indonesia since 1970 through preliminary meetings, workshops and national seminars. Population Education was implemented within the National Education System in early 1976 together with the introduction of the New 1975 School Curricula. This represented the beginning of the institutionalizing process in Indonesia. A Ministry of education and Culture decree was issued to implement population education within the educational system. Population education programme for the in-school's audience was infused in some relevant subjects in the, curricula of Elementary Schools, Junior and Senior Secondary Schools, Including vocational/technical schools Social Sciences, Natural Science, Geography, Biology, Economics, Sports, etc. As for the out-of-school programme, population education or is taught in monolithic system. Up to 1990 the population education programme in Indonesia has made

some progress in the following areas:-

A. In-School Programme

- Training of primary school, junior and senior high school supervisors and school principals.
- Seminar on population education for Institute Keguruam dan Ihum Pendldikan (IKIP or Teacher Training Institutes) rectors, deans, and lecturers.
- Curriculum development and the provision of population education textbooks for the lecturers and the students o IKIPs/FKIPs (Teacher Training Institute).
- Population education correspondence course programme.
- Provision of population education books for the elementary and the secondary schools.
- Supervision of population education activities at the primary and secondary schools.
- Preparation of guidebooks and handbooks for the primary and the secondary school teachers.

B. Out-Of-School Program

- Training of the Heads of Community Divisions and other personnel working at the district or municipality level.
- Preparation of booklets on family planning education for tutors and monitors.
- Preparation of supplementary booklets for Kejar Package A.
- Preparation of guidebooks for training implementations of out-of-school programme.
- Preparation of teaching kits.

5.11 Malaysia

Malaysia is pursuing a policy of increasing its present population of 26.9 million to 40.6 million by the year 2050. The formal education system therefore stresses more the quality of life that the citizens should strive for the population size. In view of this, the country has introduced new curriculum programmes for both primary and secondary schools which aim at operationalizing the goals of education as expressed by the National

Philosophy of Education. This philosophy programmes have included population-related issues by:-

- the introduction of a new primary school subject, Man and His Environment, which aims at raising the quality of life by improving and protecting the environment.
- the inclusion of a subject called Living Skills in the lower secondary. This subject has a component called Family Living.
- the inclusion in the Health Education syllabus of fertility-related issues.

Of crucial importance to the success of these programmes are the changes in instructional strategies that they are attempting to bring about. Then training programmes stress the importance of student-centered approaches, learner-generated questions, and study skills.

The National Population and Family Development Board is responsible for out-of-school population education. This is done through two” programmes: (a) IEC (Information, Education and Communication) and (b) Training.

The Board's Training programmes have resulted in the training of 16.438 personnel who have been directly or indirectly involved in the implementation of its programmes. Those who have received training cover a wide range of occupations.

The Board has also developed a series of training modules on family development with special emphasis on marriage, parenthood and family problem solving.

A population training module which includes various population related issues, has recently been designed and is to be implemented in late 1991.

5.12 Philippines

The Department of Education, Culture and Sports (DECS) established the Population Education Programme (PEP) in 1972 as its contribution and support to the national population programme in its efforts to curb the rapidly growing population of the country. The PEP introduced and Institutionalized population education in the three levels of the formal education system and in the non-formal education sector.

The PEP's achievements during the past four years addressed the following:- (i) integrating population education core messages/ competencies into the elementary and secondary schools curricula as well as the literacy

curriculum of the Bureau of Non-Formal Education (BNFE-DECS); (ii) participating actively in POPDEV; (iii) enhancing capabilities of population education regional coordinators and non-formal supervisors in planning and management of population education programmes through planning and project formulation workshops; (iv) development and production of support materials for the elementary level, supplementary readers for the third and fourth year students with teacher guides, and a handbook on training methods and techniques; (v) development of modules on home economics, health education, social studies and values education for the secondary level; (vi) conduct an evaluation of the one-week training programme for district/school coordinators; (vii) continuous participation in third country training and attachment programmes; and (viii) maintaining library services on population education.

The shifts in government and innovations in education in recent years have brought changes in the PEP. One of these is the government policy on population. The new Population Policy pursues the overall improvement of family welfare and not just fertility reduction.

In particular, the adoption of the New Population Policy necessitated the review and expansion/preparation of population education core messages perceived to be responsive to the objectives and thrusts of the national population programme. This had implications for the population education content of the school curricula. Consequently, the PEP conducted the analysis of the curricula of the Bureau of Elementary Education (BEE) in 1986 and of the Bureau of Secondary Education (BSE) in 1989. This undertaking enriched the new elementary school curriculum (NESC) and the new secondary education curriculum (NSEC) through the integration of new population education competencies in selected subject areas in all grade/year levels.

At present, the PEP is about to formally launch the Third Country Project. The target audiences comprise the illiterate out-of-school youth, semi-literate youth, and newly married adults, specially the women, who live in neglected rural and urban slum; areas.

5.13 Thailand

During the period 1981-86 the population education programme in Thailand was implemented with the financial assistance from UNFPA and with the technical assistance from UNESCO. Population education concepts had been integrated, to a large extent, into the curriculum and textbooks of primary and secondary schools teacher training colleges as well as in non-formal education programme. Some content relating to family planning, sex education and

reproductive behavior has also been integrated into science, health and physical education. Population education is also offered as an elective course at the lower secondary and upper secondary levels but all the secondary schools do not offer this course mainly because of the fact that teachers in all the secondary schools have not been trained in population education. Some teaching/learning materials including posters, slides and tapes, and video cassettes etc. have also been developed during the first phase of the project.

In spite of the fact that the project hasn't been funded by UNFPA since 1987, Thailand has done considerable progress in the Population Education field.

In collaboration with the Planned Parenthood Association, a teacher manual on "Family Life Education" has been produced and about 9,000 teachers have been trained to use it effectively.

Moreover, two times a year, about 45,000 copies of newsletter on population and environmental education are distributed to all schools and colleges under the Ministry of Education and public libraries as well so that students, teachers and villagers can update themselves with new data, researches and technologies in these two fields.

6. COMPARISON AND SITUATION ANALYSIS OF POPULATION IN SOUTH ASIA

	Name of Country	Pop: Male 2006 (Million)	Births Per 1000 Pop.	Deaths Per 1000 Pop.	Rate of National Increase (%)	Pop. 2005	Projected 2005	Infant Mortality Rate	Total Fertility Rate	Life Expectancy		Per Capita Income	Pop. Per Sq. Metre
										M	F		
1.0	Afghanistan	31.1	48.0	22.0	2.6	50.3	81.9	166.0	6.8	41.0	42.0	-	123.0
2.0	Bangladesh	146.6	27.0	8.0	1.9	190.0	231.0	65.0	3.0	61.0	62.0	2,090.0	2,637.0
3.0	Bhutan	0.9	20.0	7.0	1.3	1.3	1.8	40.0	2.9	62.0	64.0	-	49.0
4.0	India	1,121.8	24.0	8.0	1.7	1,363.0	1,628.0	58.0	2.9	62.0	63.0	3,460.0	884.0
5.0	China	1,311.4	12.0	7.0	0.6	1476.0	1,437.0	27.0	1.6	70.0	74.0	6,600.0	355.0
6.0	Indonesia	225.5	20.0	6.0	1.4	263.7	284.6	35.0	2.4	67.0	72.0	3,720.0	307.0
7.0	Iran	70.3	18.0	6.0	1.2	89.0	101.9	32.0	2.0	69.0	72.0	8,050.0	112.0
8.0	Japan	127.8	9.0	8.0	0.0	121.1	100.6	2.8	1.3	79.0	86.0	31,410.0	876.0
9.0	Korea (N)	23.1	16.0	7.0	0.9	25.8	26.4	21.0	2.0	68.0	73.0	-	497.0
10.0	Malaysia	26.9	20.0	4.0	1.6	34.6	40.6	10.0	2.6	72.0	76.0	10,320.0	211.0
11.0	Maldives	0.3	18.0	3.0	1.5	0.4	0.5	15.0	2.8	70.0	70.0	-	2,573.0
12.0	Nepal	26.0	31.0	9.0	2.2	36.2	48.0	64.0	3.7	62.0	63.0	1,530.0	457.0
13.0	Pakistan	165.8	33.0	9.0	2.4	228.8	295.0	79.0	4.6	61.0	63.0	2,350.0	539.0
14.0	Philippines	86.3	27.0	5.0	2.1	115.7	142.2	27.0	3.4	67.0	72.0	5,300.0	745.0
15.0	Sri Lanka	19.9	19.0	6.0	1.3	22.2	22.4	11.0	2.0	71.0	77.0	4,520.0	784.0
16.0	Thailand	65.2	14.0	7.0	0.7	70.2	73.2	20.0	1.7	68.0	75.0	8,440.0	329.0
17.0	Korea (S)	48.5	9.0	5.0	0.4	49.8	42.3	5.0	1.1	74.0	81.0	21,850.0	1,265.0

Source: Population Reference Bureau.

7. SELF ASSESSMENT QUESTIONS

- Q.1. FILL IN THE BLANKS WITH MOST APPROPRIATE WORD/FIGURE.
- a. The population of Afghanistan was _____ million in Mid 2003.
 - b. The government of Maldives launched a National Population Education Programme in 1984 with assistance from UNESCO and _____.
 - c. Population of Pakistan increased from _____ million since 1947 to _____ million since 1947 to 2005.
 - d. The world-wide population growth has declined from 2.1% per year in the late sixties to _____ percent today.
 - e. European and North American States have low, zero or _____ population growth.
 - f. The growth rate in 2006 in China was _____.
 - g. Thailand, Malaysia and Indonesia managed to reduced to reduce their fertility rates by _____ percent in only one decades.
 - h. Sri Lanka with a population of 19.9 million has a population density of _____ per Square kilometer.
 - i. India has developed population education is done through IEC and _____ Programmes.
 - j. In Malaysia out of school population education is done through IEC and _____ Programmes.
 - k. About 45,000 copies of newsletter on population and environmental education are distributed to school and colleges twice a year in _____.
 - l. In Pakistan Population Education Programme was undertaken by Ministry of Education on systematic basis in _____.
- Q.2. Write down the global situation and trends of population in detail.
- Q.3 Discuss the overall trend of population in South Asian Countries.
- Q.4 Bangladesh maintains the high population growth, write down the impact of accelerated growth of population on every sphere of life.

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**POPULATION POLICY OF PAKISTAN 2002
AND
POPULATION SECTOR PERSPECTIVE PLAN 2012**

By

S. Manzoor Hussain Shah

CONTENTS

	Title	Page No.
	Population Policies/Programs/Plans: An Overview	105
1.	Population Policy statement of Pakistan, Introduction	107
1.1	Introduction	107
1.2	Elements of Population Policy	108
1.3	Goals of Population Policy	109
1.4	Ultimate objective	110
2.	Population Policy of Pakistan, 2002, Introduction	110
2.1	Goals of the Policy	113
2.2	Strategies	114
3.	Area of Policy Focus	115
3.1	Population Mainstreaming in National Planning	115
3.2	Service Delivery Expansion & improvement of quality	115
3.2.1	Strengthening community based services	115
3.2.2	Linkages with Institutional service delivery system	115
3.2.3	Strengthening & upgrading existing family welfare Centers	116
3.2.4	Public Private Partnerships	117
3.2.5	Male Involvement	117
3.2.6	Improve and ensure quality of services	117
3.3	Advocacy	118
3.4	Training and capacity building	119
3.5	Decentralization	120
3.6	Coordination	120
3.7	Monitoring	120
3.8	Research in Population and development	121
4.	Population Sector Perspective Plan 2012	121
4.1	Population Poverty arid development	122
4.2	Population stabilization	123
4.3	Strategy of the Plan	124
4.3.1	Multi sector approach	124
4.3.2	Common and advocacy strategies	125

OBJECTIVES

After having studied the unit the students are desired to be able to;

1. Describe government efforts on the population problem of Pakistan
2. Analyse elements of Population Policy
3. Describe the strategies suggested in the policy
4. Identify areas of focus in population policy
5. Highlight the importance of interaction between public and private sector in the area of population planning.

Population Policies/programs/plans; An Overview

In the year, 1952 the Family Planning Association of Pakistan, an NGO, initiated efforts to contain population growth. Three years later, the government began to fund the association and noted the need to reduce population growth in its First Five Year Plan (1955-60). The government soon combined its population planning efforts in hospitals and clinics into a single program. Thus population planning was a dual effort led by the Family Planning Association and the public sector. In the mid-1960s, the Ministry of Health initiated a program. Through this program the government was able to attract funding from many international donors but the program lost support because the targets were overly ambitious. The population-planning program was suspended and substantively reorganized after the fall of Muhammad Ayub Khan's government in 1969. In late December 1971, the population was estimated at 65.2 million. In an attempt to control the population problem, the government introduced several new programs. First the continuous motivation system program which employed young urban women to visit rural areas, was initiated. In 1977, government population planning efforts were almost halted. In 1980 the population Division, formerly under the direction of a Minister of State, was renamed the Population Welfare Division and transferred to the Ministry of Planning and Economic Development. This agency was charged with the delivery of both family planning services and maternal and child health cares. Community participation had finally become a cornerstone of the government's policy.

Population Education Program in the formal education was introduced in the year, 1983. Main focus of this program was on the revision and development of curriculum and materials for secondary schools. The second phase (1986-88) and third phase (1993-98) were focused on the extension of the first phase. In preparing the Sixth Five Year Plan (1983-88), the government projected a national population of 147 million in the year, 2000 if the growth rate were to be a constant at 2.8 percent per year, and of 134 million if the rate were to decline to the desired 2.1 percent per year by then. By Seventh Five Year Plan (1988-93) period, the multi pronged approach initiated in the 1980s had increased international donor assistance and had begun to enlist local NGOs. Efforts to improve maternal and child health were coupled with education campaigns. In August 1991 the Prime Minister issued directive of effective implementation of population welfare program. The directive provides sound rationale for the involvement of object on population education program through formal school system for intensification of population welfare programs in the country, the Project entitled, "Population Education Program through formal school system" was prepared and coincided with the time frame of 8th five year plan to be implemented from July, 1991. The theme and concept of the project was

presented and discussed thoroughly in the 2nd inter-Ministerial Meeting held on 9th October, 1991 and was approved in principle with the direction to negotiate it with the UNFPA for partial sponsorship. The project aimed to introduced population concepts into the curricula, orientate curriculum developers and educational administrators and provide shorter training courses to a total of 20,500 school teachers in Pakistan. In the year, 1998 the government issued a policy statement, which is discussed in the coming pages.

In the year, 2002, the government came with first ever population policy. Keeping in view its importance, this policy has been added in the subject of “Population Education” for EPM students so that they are well aware of the government’s decisions, targets and implementation strategies to deal with this neglected but most important potential problem. The population policy, 2002 has given a new direction to all the efforts of the government and its other counter partners.

POPULATION POLICY STATEMENT OF PAKISTAN, 1998

1.1 Introduction

Pakistan is the 6th most populous country in the world with one of the highest growth rate in Asia and among developing countries. The Government of Pakistan recognizes the serious implications of high fertility and population growth and is seeking to accelerate the pace of fertility decline, lower current rates of population growth, reduce infant, child and material mortality, improve reproductive health, and promote gender equity and the empowerment of women. With these ends in view, the Government's focus is on the development and implementation of an effective population policy operating within the framework of nationally accepted, broad-based and strategically focused population and development policies, while maintaining voluntary character in the promotion of fertility moderation.

Pakistan's population growth rate is estimated to be about 2.6 percent per annum. High fertility is the major contributor to the growth rate as mortality rates have been fairly low since the last two decades which is nullifying somewhat the gains of fertility moderation. Currently about 41 percent of the population is under the age of 15 and about 47 percent of the female population is in the reproductive age group, which is likely to rise to around 53 percent by the year 2020, contributing to population momentum. The infant mortality rate of around 93 per thousand births and maternal mortality of around 300-600 per hundred thousand live births are unusually high, expectation of life at birth is low, around 63 years for both women and men. The position of women and girls remains much weaker than men and boys. The proportion of population living in urban areas is believed to have risen from 16 percent in 1951 to around 34 percent in 1998. Current GDP growth rate has averaged around 5.4 percent. About 29 percent of the population lives below poverty line. Employment opportunities have been unable to keep pace with labour force growth in recent years. Natural resources and the environment are suffering from overuse and the degradation respectively. Keeping in view all this, there is a need to publicise the govt. planning and actions with respect to control of population in Pakistan.

1.2 Elements of Population Policy

Though Pakistan was one of the first few countries to realize the need for family planning in 50's and adopted a population policy as early as 1960, yet it has only made a marginal dent on fertility due to a number of factors. These include fluctuating political commitment, frequent changes in structure of the programme, lack of multi-sectoral approach to population resulting in an almost exclusive reliance on the population programme, too narrow a focus on married women as the main target, limited coverage of the programme and absence of a conducive environment for fertility reduction such a low status of women, high infant and child mortality, low educational levels and inadequate investment in social sectors.

There is therefore a need to reorient the population policy as the position is different today. The government realizes the gravity of the situation and long term consequences of rapid population growth for social and economic development. There is today an open and sustained political support for the programme at all levels. The National Assembly has unanimously adopted a substantive motion in support of the programme for building national consensus, which now lays emphasis on effective implementation of the population welfare programme including reproductive health care.

In line with the above the thrust of the population policy is now on:

- Making the population issue a national cause by heightening public awareness of the adverse consequences of rapid and unchecked population growth at both the aggregate level and at the level of families and individuals.
- Stressing that population is a major crosscutting issue affecting all persons and all sectors, that it is everybody's problem and everybody's responsibility to tackle it. This will inter-alia include the policy, the policy makers, public representatives, informal leaders, medical establishment, organized sector, educationists, social workers, intelligentsia, activities, khateebis and youth throughout the country, in AJK and Northern Areas (NAs).
- Developing a multi-sectoral approach to addressing the problem involving different ministries and departments of the government at all levels. Besides NGOs, the private and commercial sectors, and other elements of civil society because of the linkages between population scenarios and development outcomes particularly education, health, employment, poverty eradication and sustainability.

- Creating an enabling environment to achieve mortality and fertility decline by implementing measures to improve gender equality and equity, promote literacy and education especially of women, improve child survival and generally augment social sector investments and the micro level linkages between population and development.
- Creating effective demand for reproductive health information including family planning by targeting both men and women of reproductive age and as well as all adolescents through multimedia channels and networking approaches.
- Enhancing the availability of reproductive health services including family planning for women and men all over the country, while at the same time, ensuring that current quality and range of services and their utilization increases and the gap between knowledge and practice is narrowed by focusing on unmet need.

1.3 Goals of Population Policy

- The policy goal is to bring down the population growth rate from 2.6 percent to at least 2.1 percent by 2002-2003.
- The policy will provide continuity and universal coverage with particular emphasis *on* rural areas and address unmet need of 37.5 percent of eligible couples. The quality of services will be improved and a broader reproductive health approach would be pursued while taking into consideration social setting of the country, and the religions, ethical and cultural values of the people.
- Inter-Ministerial co-ordination and collaboration for incorporation of identified inputs would be pursued with the departments of Health, Education, Women and Development, Information and Media, Religious Affairs, Labour and Manpower and Environment etc. Collaboration with NGOs has been streamlined and reinforced. Medical establishment including medical practitioners, private hospitals, nursing homes, hakeems and homeopaths are being used as catalyst to supplement programme service delivery. This will include expanded role of the social marketing programme.
- Human resource development is being stepped-up to provide compatible training and skill development as an in-built programme activity. Operational research is being supported with a focus on management and service delivery aspects, identifying

reasons for non-acceptance of small family norm, barriers to male involvement, factors hindering smooth implementation of the programme and reasons for unmet need.

- The information and motivational campaign has been refined and built on research feedback. It addresses particular target audience with special emphasis on male participation, gender equity and attitudinal change for action. Special efforts are being made to involve and elicit support of religious circles taking into account regional variations. A rigorous and independent monitoring backed-up an effective Monitoring and Information System (MIS) is being instituted.
- The population policy sets out a long-term framework and provides directions to the programme for the next five years. Combined efforts of all the stakeholders are necessary for bringing about a balance between population and resources, thereby contributing to raising the quality of life of the common man.

1.4 Ultimate Objective

This in turn is the way for achieving the long term objectives of the population policy for providing sustainable development, creating conditions for achieving replacement fertility levels, raising expectation of life at birth for both men and women, reduce infant and child mortality as well as maternal mortality by one half of the current levels, ensure empowerment of women in decision making and provide reproductive health services to all citizens of Pakistan.

2. POPULATION POLICY OF PAKISTAN, 2002

Pakistan's first ever National population policy has been formulated in the year 2002. This policy is consistent with the objectives focused on national needs seeks to incorporate population concerns into relevant development strategies and plans and has integrated factors amongst others relating to family planning quality care empowerment of women and improvement in service delivery. The population policy addresses population issue centering on meeting the needs of families in the unique social and cultural milieu of Pakistan. It builds around sustained political commitment and the necessity for mobilizing broad support from various stakeholders. These two factors are essential to achieve sustained economic growth within the context of sustainable development. They directly contribute to improving the welfare of individuals and the nation as a whole through reduced poverty, better health education and enhanced living standards. The policy has a wide scope touching on economy, human rights and the long-

term problems of Pakistan. It pursues the core problems such as low status of women, striking gender, inequalities, high and rising levels of poverty, insufficient allocation and expenditures in the social sector and the lack of commitment to quality social services.

Pakistan is faced with its ever-largest adolescent population, because of its high levels of fertility over the last few decades and its very recent fertility decline. The adolescent population, in the age group of 15-24, as it enters into its reproductive phase embodies potential population growth for several decades. It constitutes population momentum in the future that has serious implications for provision of schooling, healthy services and other basic amenities of life for the coming decades.

Over one third of Pakistanis are living in poverty. The impact of population growth on poverty is obvious. Since poorer families, especially women and marginalized groups bear the burden of a large number of children with much fewer resources further adding to the spiral of poverty and deterioration in the status of women. This large part of the population is constrained to live in poor housing and sanitation conditions and lack of access to safe drinking water. In particular poverty leads to pressures on food consumption and adversely affects caloric intakes and increasing malnutrition in poorer families and contributes to high levels of child and maternal morbidity and mortality. Furthermore, rapid population growth contributes to environmental degradation and depletion of natural resources.

Pakistan's population has increased from 34 million in 1951 to 142.5 million in mid 2001. The addition of over 108 million Pakistanis in just five decades is due to the high population growth rates in the last thirty years. Continuing high population growth will amount to Pakistan's population reaching 220 million by the year 2020. Coupled with poor human development indicators such as low literacy, high infant mortality and low economic growth rates, such a large population will undermine efforts being undertaken to reduce poverty and to improve the standards of living of the populace.

Pakistan currently has a population more than 144 million people. Over 3 million people are added to the population every year. It is the sixth most populous country of the world. Which by 2035 would be the second largest contributor to population growth after India and surpassing China. The world population more than double in the last half-century has reached the six billion mark in 1990. It was estimated at 6.1 billion in mid 2001. While the rate of growth is on the decline absolute increments have been increasing currently exceeding 77 million persons per annum. Annual population increments are likely to remain in the range of 77 million until the year 2015 perhaps more striking than

the number are changes in the demographic composition. The size has been with unprecedented speed of the youngest and oldest age groups

With the continuous efforts and awareness among the masses the population growth rate (PGR) has decline from over 3 percent in previous decades to its current level of 2.1 percent per annum. Pakistan still has an unacceptably high rate of growth compared to other developing countries. Therefore the Government of Pakistan is attaching the highest priority to the lowering of the population growth rate (PGR) from its current level to 1.9 percent per annum by the year 2004 and to reaching replacement level of fertility by the year 2020.

Despite an early recognition of the detrimental effects unbridled population growth has affects on economic and social development. Maintaining population levels in tune to our resources has remained a challenge because of weak program directions stemming from a lack of political will and commitment displayed by successive regimes, we are confronted by the prospects of a cataclysmic future.

Based on demographic realities to be effective the policy addresses the following three objectives

- Reduction in rate and incidence of unwanted fertility
- Reduction in demand for large family size
- Greater investment in the youthful population
- Focus on male involvement

The policy also recognizes that Pakistan is faced with its ever-largest adolescent population. It has serious immediate implications for the provision of schooling, adequate jobs. For this cohort is going to depend on both the successes of economic revival program and reduction in fertility level. The policy proposes that concurrent with keeping a vigilant eye on the stabilization of population growth a parading shift be made. A National Population policy centres around meeting the needs of eligible population. It places emphasis on securing sustained political commitment and mobilizing broad base support. At the same time it is consistent with country's national laws and development priorities, and with the religious, ethical and cultural values of the people of Pakistan.

This Population Policy is designed to achieve social and economic revival by curbing rapid population growth and thereby reducing its adverse consequences for development. It is intended to achieve a reduction in dependency ratios, to alleviate pressures on dwindling resources and to help in the reduction of poverty. The Population Policy has several wide-ranging

consequences for the economy, polity, human rights and the long-term prosperity of Pakistan. The Population Policy is the outcome of a participatory process and enjoys the consensus of all stakeholders and partners, within government, NGOs and civil society.

2.1 Goals of the Policy

Following are the goals of the population policy

- Attain a balance between resources and population within the broad parameters of the ICPD paradigm.
- Address various dimensions of the population issues within national laws, development priorities while remaining within our national social and cultural norms.
- Increase awareness of the adverse consequences of rapid population growth both at the national, provincial district and community levels.
- Promote family planning as an entitlement based on informed and voluntary choice.
- Attain a reduction in fertility through improvement in access and quality of reproductive healthy services.
- Reduce population momentum through a delay in the first birth, changing spacing patterns and reduction in family size desires.

Short Term:

- Reduce population growth to 1.9 percent per annum by 2004.
- Reduce fertility through enhanced voluntary contraception to 4 births per woman by the year 2004.

Long Term:

- Reduce population growth rate from 1.9 per cent per annum in 2004 to 1.3 percent per annum by the year 2020. ,
- Reduce fertility through enhanced voluntary contraceptive adoption to replacement level 2.1 births per woman by 2020.
- Universal access to safe family planning methods by 2010.

2.2 *Strategies*

For the achievements of above objectives, the policy provided the following strategies;

- Develop and launch advocacy campaigns to address special groups, such as, policy makers, opinion leaders, youth and adolescents.
- Promote the small family norm through innovative incentive schemes for users, clients, parents, service providers and programme managers.
- Increase ownership of population issues by the stakeholders and strengthen their participation in the processes of service delivery and program design.
- Reduce unmet need for family planning services by making available quality family planning & RH services to all married couples who want to limit or space their children.
- Adopt a shift from target oriented to people centered needs and services.
- Ensure the provision of quality services especially to the poor, under-served and un-served populations in rural areas and urban slums.
- Coordinate and monitor a comprehensive network of family planning & RH services in Pakistan.
- Building strong partnerships with concerned Line Ministries, Provincial line Departments, particularly Health, Non-Governmental Organizations and the private sector including the industrial sector to maintain standards in family planning by providing assistance/guidance through advocacy, training, monitoring and other means of participation and quality assurance.
- Strengthen contribution to population activities by civil society players, particularly NGOs and media.
- Expand the role of the private sector by making contraceptives accessible and affordable of contraceptives through social marketing of contraceptives and through local manufacture of contraceptives.
- Decentralize program management and service delivery to

provincial and district levels.

- Ensure availability of the four prioritized areas of the Reproductive Healthy Package, i.e. family planning, safe motherhood, infant health through nationwide service delivery outlets in the public, and private sector.
- Harness support, cooperation and involvement of men in strengthening the family as the basic unit of society and in small family size decision making.
- Ensure Population and Family Life Education for school and college students.

3. AREA OF POLICY FOCUS

3.1 Population main Streaming in National Planning and Development Program

Population mainstreaming entails incorporation of the population factor in development plans to promote social justice and address poverty through socio-economic development in the context of migration, urbanization, environment and sustainable growth. This Policy is developed and coordinated through a multi-sectoral strategy towards population issues in which there is a synergy between population dynamics economic revival and poverty alleviation programmes. The connectivity of population with poverty, status of women and sustainable development will be established because they are intrinsically interrelated and progress in any component can catalyze improvement in others.

3.2 Service Delivery Expansion and Improvement of Quality

The strategy of this policy is essentially aimed at tackling the more immediate objectives of reducing the high unmet need for family planning services through bringing FP services into the fold of healthy outlets, developing greater partnerships between various arms of the public sector and public private sector partnerships. The reduction of the gap between what married women want in the way of fewer children and longer spacing and utilization of family planning services will be the first thrust of this policy.

Ensuring quality in a wide range of family planning services will be the major short-term goal of this policy. In the longer run whilst the public sector will not relinquish its responsibility as service provider, recognizing the magnitude it will fully engage the non-governmental and private sectors. To achieve this

requires the building of capacity of non-governmental and private sector partners to cope with future need of service delivery.

Service provision in family planning and rural health will concentrate on improving access and expanding coverage with special emphasis on rural and under served areas and slums. This will be achieved through Population Welfare Program's infrastructure and through the healthy service delivery infrastructure, partnerships with private sector and networking with civil society. The provision of family planning service will include rural health, counseling services for attitudinal change for enhanced family planning practice and ensuring adequate supplies. Quality service provider in latest techniques. Quality service provision will be ensured through regular monitoring. Service delivery will specifically include the following aspects:

3.2.1 Strengthening Community-Based Services:

Population in rural and remote areas where there is established unmet need do not have adequate access to affordable family planning and human resource services. These communities need special attention, which is being addressed through community-based workers and out reach services. Female community workers will provide family planning services and serve as a referral for clinical methods. Male community workers will at the grassroots provide information and counseling, healthy education and awareness.

3.2.2 Linkages with Institutional Service Delivery System:

The high unmet need for family planning requires a concerted effort, by all stakeholders. The large Health Department infrastructure relevant Provincial Line Departments, Public and Private Sector Institutions and others will provide comprehensive family planning services and attend to referrals.

3.2.3 Strengthening and upgrading the existing Family Welfare Centers:

The gap in universal awareness of family planning and the contraceptive use rate will be addressed through quality client centered family planning services which are accessible and affordable. Family Welfare Centres will be strengthened and upgraded to function within the ICPD framework of integrated service centres, which address the holistic needs of a family. In

addition to family planning and rural health services, basic social services will be offered in an integrated manner and will be run by a local management committee in which elected women councilors will be actively involved.

3.2.4 Public-Private Partnerships:

Social marketing will be encouraged and facilitated to intensify efforts in urban/semi urban areas and move out to rural area by associating registered medical practitioner, hakims homeopaths, paramedics, chemists/druggists and networking with CBOs. These activities would be built around advertisement, outdoor publicity, point of sale promotion, inter personal communications, training and dispensation of products including interventions and facilities for voluntary surgical contraception. Initiatives for local production of contraceptives would be supported and facilitated to reduce dependency on imported products.

3.2.5 Male Involvement:

Men have a dominant role in decision making in the family setting, their active involvement is, therefore, essential in planning family size, supporting contraceptive use, assuring adequate nutritional status of pregnant women, arranging skilled care during delivery and avoiding delay in seeking emergency obstetric care. Men need to be sensitized to their role as responsible fathers and in recognizing the critical role of women in the health of the family. For enhancing male involvement, male workers have been recruited in the rural areas to engaged into a regular dialogue with male community and sensitize the elders and parents. Provision for male contraceptive surgical producers will be strengthened, and the method promoted.

3.2.6 Improving and Ensuring Quality of Services:

Provision of quality services need to be ensured to address the large unmet need for family planning and for improving contraceptive use rate. Accessibility of services, attitude of service providers, their technical skills, counseling and follow up are the main pillar for quality service provision. Basic standards for quality service provision are required to be formulated through a consultative process of all stakeholders. For ensuring high quality services of uniform standards at all service outlets a system of

technical supervision and monitoring needs to be institutionalized. MoPW will be responsible for laying down standards for family planning service provision and will be involved along with other stakeholders in preparation of protocols for monitoring family planning standards and will also be responsible to make required improvements. Training, orientation and refresher courses will be conducted periodically at training institutions of MoPW.

3.3 Advocacy

The Policy addresses those who being illiterate lack knowledge or have inhibitions to practice family planning. There is need also to address prevalent fears and misconceptions. A change in beliefs and the value system is required to reduce fertility to replacement levels. This will be done through a carefully designed program of advocacy and promotional campaign, which addresses all segmented target groups.

The Policy also addresses the issue of population momentum which due to its current ever-largess cohort of adolescents entering reproductive lives will be the main engine of population growth in coming decades. The two-pronged strategy addresses adolescents through population and family life education in the formal and Non-formal education sector and reaches out to young couples with appropriate media, interpersonal messages and services.

An Advocacy Campaign will be devised to build and sustain adoption of the small family norm. It will raise awareness about population and development issues by engaging change agents to communicate on the impact of runaway population growth on the lives of the individual, family and communities.

Advocacy programmes will utilize all channels of communication particularly the media, interpersonal communication and mass education to convey the macro and micro effects of runaway population growth. It will address the public and various influential groups as follows:

- **Public Representatives:** will be given orientations on the population problem and its critical link to social and economic progress. They will be invited in turn to be advocates of the programme,
- **Policy/Decision Makers:** will be targeted to enhance their understanding of the inter-linkages between population and sustainable development, to integrate population variable level of resources and extend overall support to the population sector.
- **Opinion Leaders:** will be sensitized about the continued benefit of birth spacing, safe motherhood and responsible parenthood for enriching

and improving the quality of life.

- **Men:** Males will be sensitized that family planning is a need for their own health and family well being.
- **Youth & Adolescents:** Youth are the future generation and need to be sensitized about the wide-ranging consequences of rapid population growth for the individual, family and nation and, therefore the need to build a mindset for responsible parenthood.
- **Medical Profession:** Medicals and paramedics will be motivated to accept family planning as integral to the work of their profession, particularly in the context of primary health care.
- **Organized Sector:** Organized sector is to be associated as a partner to educate, inform and provide services to their employees through their infrastructure in family planning & RH.
- **Intelligentsia/Influential Groups:** will be provided information about inter-relationships between population and sustainable development to sustain awareness, understanding and enhance social acceptability of the programme in society.

3.4 Training and Capacity Building

The following training programme and human resource development would be key features of the strategy:

- **Family Planning Training (FPT):** Population Welfare Programme has a nationwide institutional set-up of training institutes. They are equipped not only to provide pre-service and in-service training to all population welfare training personnel but also on an organized basis respond to the training needs of nation building departments, public sector organization and NGOs.
- **Human Resource Development (HRD):** A Human Resource Development Plan will be prepared for programme personnel. This has assumed added importance because of the need for re-training in new skills and management approaches. In addition, this has been neglected in maintaining the level of programme staff which is currently denuded due to superannuation and limited recruitment. It is proposed to address these needs in the HRD plan. As a starting point under the devolution plan, District Government personnel will be re-trained in new methodologies of planning, coordination functions, problem-solving skills and improving their capacity to manage activities relating to the population sector.

3.5 Decentralization

The program which to date has been federal will be defederalized with administrative, financial and programme transfers to the provinces: The defederalization will further decentralize the program to the district level in line with, governments devolution plan. This will be done through subsidiary of the Population Welfare Program at the district level. In addition, Health Departments are mandated to provide family planning services in the primary health care infrastructure.

3.6 Co-Ordination

The Policy recognizes that population is a crosscutting issue, which cannot be addressed in isolation and warrants and institutionalized coordinating mechanism. Coordination is required at all levels within the government and outside and with all stakeholders. This function rests with the Population Welfare Division.

3.7 Monitoring Mechanisms

The following interventions would be critical for an effective monitoring and evaluation mechanism:

Management Information System(MIS)

The Ministry of Population Welfare will ensure a review of its MIS system so that it is based on a district monitoring of socio-economic demographic indicators and incorporates quantitative and qualitative data on programme result based performance.

Logistic Management Information System (LMIS)

It is imperative to institutionalize an uninterrupted supply of a range of contraceptives. Since the policy envisages active involvement of all public and private sector agencies in the dispensation of Family Planning/Reproductive Health services, therefore an omni watch on the stock position of contraceptives in the services outlets of all sectors would be crucial. This requires a strong and established Logistic Management Information System (LMIS). Efforts would, therefore, be made to introduce a computerized inventory control system at central warehouse for proper records of receipts, issue and for smooth distribution of contraceptive supplies to all outlets.

GIS/Mapping

A proper mapping in each District of health, population welfare, NGO & private sector family planning facilities is visualized, this would reduce duplication of resources, increase coverage especially of un-serviced and undeserved regions by relocating facilities, establish a blue print for effective referral system at the district level, streamline services and finally serve as a tool for planning and monitoring purposes.

3.8 *Research in Population and Development*

National Institute of Population Studies (NIPS) will continue to provide national data analysis and research findings to ensure that planners, decision makers and programmers receive operationally relevant information and analysis on the key interrelationship between population and development variables. Under NIPS mandate it is entrusted with research covering all aspects of population and development such as education, healthy, women, environment, labor force, aging, adolescents and urbanization. This is in addition to NIPS traditionally strong research areas, which include family planning, fertility, mortality, evaluation for the population programme components etc. The mandate also makes the Institute responsible for imparting training in the field of population and development. NIPS would also broaden its focus to cover a wide range of population and development issues and to collaborate with the community of researchers within and outside the population field in implementing the agreed agenda.

The Planning Commission had allocated an amount of Rs.9.5 billion for the three-year Development Plan (2002-2005) an average of over 3 billion per annum. Keeping this as a benchmark, implementation of the Population Policy would require a financial input of Rs.24 billion for the remaining 8 years of Perspective Plan 2012 and subsequently another Rs. 16 billion at a declining rate of Rs.2 billion per annum till the year 2020. Hence a total of Rs.49.5 billion requirements are estimated for the next 19 years for achieving the fertility replacement perceived under the Population Policy by the year 2020. Major part of the financial inputs will cover the provision of subsidized contraceptives to the clients, service delivery, training, advocacy, and research and to cover human resource and infrastructure gaps essential for achieving the population policy objectives.

4. POPULATION SECTOR PERSPECTIVE PLAN 2012

The Interim Population Sector Perspective Plan 2012 is a response to Pakistan's national commitment. It contains National Population Policy and Population Sector Perspective Plan 2012. The content strategies, objectives and

programmes of this document are indicative of the strong political commitment of the government to population related issues. The document cover some of the important areas which are detailed below;

4.1 Population Poverty and Development

Population and development are intrinsically interrelated and progress in any component can catalyze improvement in others. In recognition of this awareness the 1994 Population Conference was explicitly given a broader mandate than before on development issues establishing the connectivity of population with poverty, status of women and sustainable development. It also recognized the linkage of slowing population growth, reducing poverty and achieving economic progress.

Pakistan's GDP growth rate was 6% in the 1980s, with population growing around 3%, there was more, than 2% increase in the per capita income. However, during the period from 1981 to 2000 it is recognized that population has eroded 2/3rd of the growth in income. It is generally stated that whilst poverty is the root cause of high fertility, the common outcome of the latter is poverty. Therefore, the population growth rate has to fall sharply in order to significantly increase the growth in per capital income and also to decrease the level of poverty which has increased from 17.3 per cent in 1987-88 to 33.5 per cent in 1999-2000. We are witnessing a rapid increase in the growth of slums in the urban areas. Most of these lack basic amenities such as water supply, electricity and adequate social services. The rise in poverty can be attributed to low rate of economic growth, implying a slow increase in per capita income, rising unemployment, stagnant/decline in real wages. Furthermore, low savings and a low investment environment has strong linkage with lower employment generation. At the same time low savings has resulted in high national borrowing, which has raised the debt burden to an unmanageable level. This has set the various cycles of borrowing and debt servicing which consumes a majors chunk of the available resources thus leaving negligible amounts for investment in social sectors. Pakistan, a semi arid country with only one third of the area being arable, faces the problem of land fragmentation due to an increasing population along with a decline in productivity. Rapid population growth also contributes to environmental degradation and depletion of natural resources

At the micro level, the impact of poverty is more obvious. Poorer families, especially women and marginalized groups bear the burden of a large number of children with fewer resources, further adding to the spiral of poverty and deterioration the status of women. Poverty leads to pressures of food consumption, which adversely affect caloric intakes and increases malnutrition in poorer families thereby contributing to high levels of infant maternal morbidity

and mortality. It is estimated that 40 per cent of Pakistani's children being under nourished and under weight, their ability to actively contribute to socio-economic development is compromised. Similarly 45 percent women of child bearing age (15-49) suffer from malnutrition. All these factors reinforce which in turn perpetuate poverty.

The flip side of the coin is a look at Pakistan's economy for a number of reasons is in a state of stagnation. In FY 2001-2002 GDP was reported 2.6 percent and the population growth rate for the same period was 2.2 percent. The two numbers mean that income per head of the population increased by 0.4 per cent. One consequence of such a small increase is the known sharp rise in poverty and the silver lining is that Pakistan's agenda for sustained economic growth outlined by government seeks through a number of measures to meet the pressures of expected population growth and facilitate the demographic transition. The government has succeeded in doing so in 2001. It had been able to do that by completing a programme of reforms funded by IMF. By achieving a 1.9 percent growth rate by the year 2003-2004, the saving would be Rs. 328 billion or an annual saving of Rs 109.3 billion with the cost per birth averted being Rs. 2139.00 only, voluntary practice of family planning is a current demand and the unmet need for family planning is in the range of 33 per cent. A contribution every Pakistan can make to economic growth this is well within reach and merits the highest political commitment and administrative priority.

As has been proposed, government through the poverty reduction strategy programmed (PRSP) is pursuing a two pronged strategy in order to address the issue. On the one hand the government has to introduce policies that increase economic opportunities for the poor, their empowerment provide access to physical assets and social facilities - education health water supply and sanitation and a system to protect the vulnerable segments of the society. On the other hand an effective fertility moderation programme has to be pursued and sustained for a period of time to achieve replacement level fertility, which ultimately leads to population stabilization.

4.2 Population Stabilization

Excessive population growth is one of the most serious concerns. The message is loud and clear that the center piece of the national population programme must be the attainment of population stabilization. In demographic terms this calls for a look at the two main factors fertility and mortality. The scenario is that according to the high variant population projection, if in 1998, the total fertility rate (TFR) of 5.0 children per woman declines to 2.6, by the year 2023. Pakistan's population is estimated to reach 21.7 million and growth rate will be 1.5 percent. Understandably this situation is unacceptable. In the medium

variant projection, Pakistan's population will reach 21.2 million with growth rate of 1.4 per cent per annum and TFR of 2.4 children by the year 2023). This is the most likely scenario to occur if our current progress in the field of family planning and socio-economic development is sustained. However, we should aim to achieve replacement level fertility, that is, 2.1 children per family by the year 2023, through strong family planning and socio-economic development programmes. Even so high fertility and young age structure if the past would contribute to a momentum that would lead to growth in our population for many years to come. Regrettably there being even more young people than ever before. Even after 2023 Pakistan's population will continue to grow for another 3-4 decades. Hence it will take almost 40-50 years from now onwards to attain the much needed and sought stabilization of population in Pakistan. It is therefore exigent on government to address the issue in a priority and sustained basis.

Accounting for those already born replacement level fertility is not attainable till 2023 and population stabilization will be within reach a few decades later.

The reason for this alarming state of affairs is the cumulative effect of decades of neglect tragically our country's leadership with the exception of president Ayub Khan failed to accord sufficient level of priority to the crucial issue of population study of the situation. In Indonesia makes one realize how a leader's vision and political will in this case President Suharto can propel even a large widely dispersed third world nation towards effecting a successful family planning programme to improve the quality of life of its people. In Iran ruled by so called Islamic fundamentalists a visionary approach has helped launch a truly effective population programme with family planning even being propagated in mosques by the imams. In the process the population growth rate in Iran which used to be significantly higher is now well below, Pakistan a comparison drawn with Bangladesh is also depressing.

4.3 Strategy of the Plan

4.3.1 Multi Sector Approach

The National Population Welfare programme being structured in consonance with the ICPD multi-sectoral paradigm seeks to integrate issues and concerns relating to population stabilization into the activities of Federal Ministries and Provincial Line Departments, Inter alia, most social sector activities being provincial subjects, it remains at the federal level for MoPW to coordinate activities through Federal Ministries in the Province. In this regard the Ministries of Health, Education and Women's Development are referred to in this document as they have an essential role to play. The national programme interfaces with the

Ministry of Health in taking forward the initiative under the M/O Health titled “Family Planning in Primary Health Care Programme”. In the case of the M/O Education, over the years a sustained population/family life education programme has been undertaken whereby presently the subject has been included in the curriculum from class-I to XII. Activities are in hand to translate the curriculum into action through substantive teacher training and preparation of text book materials. Regarding M/o Women's Development, the empowerment of women and girls is crucial for inculcating the small family norm in Pakistan. Improvement in the current status of women is, therefore, being addressed whereby political, economic, social and individual well being issues of women are outlined. Amongst other, in education, focal attention is being given to girls education & women literacy; in health to safe motherhood, family planning and nutrition; under social and individual well being focus is on the family as the basic social unit and physical security of women and girls is being addressed and in the economic sector, skill training relating to micro credit is on the anvil. The National Population Welfare Programme is enabling the Ministry of Women's Development to set up a Management Information System, which would serve as a database for gender mainstreaming in the planning/programming process. In addition, in the Advocacy and IEC component of the population programme there is centrality in reaching the minds of men with the women's rights agenda.

The Population Welfare Programme on a sustained basis will initiate and strengthen multi-sectoral projects as described above with Federal Ministries. At the provincial level, the Ministry of Population Welfare has a structure in place whereby the programme, with fiscal and administrative transfers, has been given to the provinces and thereon devolved to district government. This mechanism will be used by the Ministry in developing Provincial Line Department Programmes. Two examples furnish the potential Provincial Line Department's contribution to the Population Welfare Programme: these are the Department of Health and Department of Labor/Social Security Institutions. As is to be seen from these two examples, integration of the message and delivery of family planning has enormous potential not only in these two line departments but clearly in and through the infrastructure of Departments such as Local Government and Education.

4.3.2 Common and Advocacy Strategies

Pakistan with its rapid population growth, and concomitant pressure on the distribution of resources and” development, has long been trying to promote family planning for a balance between population and resources. The government is aware of the serious implications of high fertility and population growth and aims to accelerate the pace of fertility decline, lower the rate of population

growth, reduce infant, child and maternal mortality, and improve the health status of the people of Pakistan. The goals of the Population Welfare Programme in Pakistan, since its inception in mid 1960s, has been to increase public awareness about the adverse consequences of unchecked population growth, generate demand and satisfy unmet need for family planning services.

Three major initiatives in the early 1990s contributed significantly to an in- coverage, accessibility and choice of family planning services. These are (i) an accelerated population welfare programme, which inter-alia involved strengthening provincial, divisional and tehsil management setups, (ii) introduction of community based workers by both the Ministry of Health and Ministry of Population Welfare, and (iii) expansion of static Reproductive Health Centres and Mobile Service Units. Additionally the outlets of the Department of Health, having female staff also provided family planning services in collaboration with the Ministry of Population Welfare. Private sector involvement received a major boost from donors and the government facilitating in expanding their role in enhancing accessibility and choice of methods to users especially in urban and per-urban areas. The GOP institutionalized the involvement of NGOs by establishing NATPOW (National Trust for Population Welfare) through an endowment from the government and assistance form the donors.

Self Assessment Questions

- Discuss the salient features of the Population Policy statement, 1998.
- Describe the implications of the goals of Population Policy of Pakistan.
- Elaborate different areas of population policy 2002.
- Critically analyse the strategies of population sector perspective plan 2012.

**POPULATION EDUCATION AND
THE FORMAL SYSTEM OF EDUCATION**

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CONTENTS

	Page
Introduction	130
Objectives of the Unit	1131
1. Formal System of Education	133
2. Self Assessment Questions-I	138
3. The Selection of Content in Population Education	140
4. Self Assessment Questions - II	142
5. When should Population Education be Introduced	142
6. Feasibility and Acceptance of Population Education	143
7. Matrix Showing grades, subjects and major content Areas of Population Education	145
8. Design for integration of Population Education	145
9. Development of Curriculum on Population Education in Pakistan	149
10. Self Assessment Questions - III	152
11. Qualities of Populations Education Teacher	153
12. Summary	155
13. Self Assessment Questions -IV	155
14. References	156

INTRODUCTION

Education is a dynamic process and has even been changing its aims and objectives to fulfill the demands and needs of the rapidly changing society. It is not merely the course of study but is some total of the experiences of the pupil that he receives through the manifold activities that go on in the educational institution in the classroom, in the laboratory, in the workshop, in the playground and in the informal contacts between the teacher and the student. Education caters for harmonious development of an individual enable him to take part actively and effectively in the community. For this purpose, an individual going through an educational system can cope with the complex problems of modern society and deal effectively with the rapidly changing society. It is the need of the time to keep the pace of competition in the field of education with the developed countries.

There is need of new ideas and disciplines to be introduced in the field of education today. Population education is one of the innovations as inter-disciplinary subject. It deals with the concepts closely related to social life which can be easily adopted in any educational system.

Since population education is inter-disciplinary in nature, it draws its contents from many disciplines. In this process it enriches those subjects by opening up new prospective.

In the following pages we shall discuss the formal systems of education of some South Asian countries of the region and describe how can population education be inducted in these systems. As a teacher plays a vital role in any education system, we have identified qualities of a population education teacher that can effectively introduce population education in the formal system of education.

OBJECTIVES

After intensive study of this unit, you are expected to be able to:-

1. Understand the concept of Formal Education System and its components.
2. Understand the concept and purpose of population education.
3. Able to use different approaches of incorporation of population education.
4. Identify the causes and demands for integration of Population education in the existing school curricula.
5. Understand how the population education is integrated with different disciplines of education.
6. Know the development process of including population education in Formal System of Education in Pakistan.
7. Assess the role of population education dealing with socio- economic issues in different Asian countries.
8. Determine the role and qualities of population education teacher.

1. FORMAL SYSTEM OF EDUCATION

According to Coombest (1973) formal system of education is defined as “education system with its hierarchic structure and chronological succession of grades “from primary to University”. It is an organised system and comprises schools, vocational institutions. Poly Technics, Colleges and Universities. In this system education is imparted to the clientele according to a set pattern. The pattern consists of such elements as grades or classes, prescribed syllabus, time table examination, and academic award and so forth. When one refers to the system of education in a particular country what is generally meant is this formal organization of teaching learning situations.

The Structure of Formal Education Systems

Traditionally the levels of formal education are as under:-

1. Primary or elementary Education (1-5 grade) or (1-8 grade)
2. Secondary Education (6-10 grade)
3. Tertiary or Higher Education (11-16)

These are often referred to as First, Second and Third levels of education respectively. Further refinements have been attempted and one such classification identifies as many as six levels namely:

1. Education at the first level (I-III, I-V).
2. Education at the second level Lower stage (IV-VIII).
3. Education at the second level higher stage (VI-X or VI-XII).
4. Education at the fourth level which is below the level that leads to University degree or equivalent (Intermediate i.e. XI-XII)
5. Education at the fifth level that leads to University degree or equivalent i.e. XV-XVI.
6. Education at the sixth level that leads to post graduate University degree or equivalent i.e. M. Phil & Ph.D. etc.

Similarly classification of education may be based on types of education such as general, technical, vocational, professional, etc.

Alongwith the notions of level and type there is also associated the concept of age/grade with formal system of education. By this term (age/grade) we mean the practice of sub dividing the period of study in each level and type of education to compartments of one year called the grades and relating them to the age of pupil. Thus, we describe primary level as 5-9 years of age group of pupils.

Using these ideas of level, type and age/grade, we describe the process of institutionalized education in a country and call it the structure of education system.

Here we take some examples of structure of educational system of different countries of Asia.

1. Pakistan

Primary	I – V	Grade	5 Years
Middle	VI-VIII	Grade	3 Years
Secondary	IX - X (VI-X)	Grade Grade	2 Years 5 Years
Intermediate	XI – XII	Grade	2 Years
Degree	XIII – XIV	Grade	2 Years
Post Graduate	XV-XVI	Grade	2 Years

At present this structure is modified as:

i)	Primary / Elementary	(I-V or I-VIII)	5-8 years
ii)	Higher/Secondary	(VIII – XII)	5 Years
iii)	Tertiary/Higher	(XIII – XVI)	6 Years
iv)	Hons Degree		4 years
V	Master Degree		1 year

2. India:

Most of states of India are adopting uniform structure of 10+2+3 years of education at primary, secondary and Higher education level.

3. Sri Lanka:

Old structure of education system in Sri Lanka i.e. 10+2+3 has been changed into 9+2+4 structure since 1975.

4. Burma:

Where the 10 years 4+3+2+1 structure is changed into 5+4+2 since 1974.

Activity -1

Describe how the Formal System of education of your country differ from that discussed in this unit.

Components of Formal Educational System

A. Formal educational system comprises the following components:-

1. Curriculum
2. Teachers
3. Students
4. Administrators

Now we discuss briefly each of these components one by one.

Curriculum

“The sum total of the experiences provided for learners for which school takes responsibility.” (Barma)

“All of the planned experiences provided by the school to assist the pupils in attaining the designed learning outcomes to the best of their abilities”.
(L. Sten House)

“The sum total of the school's efforts to influence learning whether in the classroom, or the play ground or out of school.” (Alcorn & Linely)

From these definitions we conclude that the curriculum is the sum of the inter-relating forces of the total environment for pupils in the school and the pupil experiences in that environment.

The term curriculum may be defined differently, but what remains implied and unchanged in all the definitions are the elements of curriculum. These elements are as under:-

- i. Objectives
- ii. Content
- iii. Methods
- iv. Evaluation

I. Objectives:

Objectives of a particular level/class/subject are derived from the National goals usually included in the national education policies and plans of country. These goals have economic, psychological, social, cultural, religious, ideological and similar other foundations and reflect the collective ideas and aspirations of people at given time.

II. Content:

The selection of content follow formulation of objectives. The content of a subject course includes all the activities prescribed for students for achieving the objectives of education.

III. Methods:

Contents are the means to achieve the objectives of education and these means are dealt with different methods i.e. lecture, demonstration, lecture/work book etc.

IV. Evaluation:

It is very important step in any educational activity. Evaluation provides answers to the following questions:-

1. Are the objectives realistic, related to life and achievable?
2. Are the content relevant with the objectives of curriculum?
3. Are the methods and facilities appropriate for teaching the content?
4. How effective has the teaching learning process been?

Teachers

In any educational system the key stone is the efficient, hard working and honest teacher, who is fully conscious of the fact that he is the trustee of his nations stability, progress and reputation because the training and up bringing of the nations youth are placed in his hands. It is quite obvious that the education of a country is as good as its teachers. A good teacher is able to get through the poorest system and even an excellent system would get corrupt if the teacher is not conscious of his responsibilities or does not care to discharge them properly. It is not only in the complex life of today, whose quality depends on much upon the character and enlightenment of the average citizen that the teacher -is capable of doing so much good or disservice to his nation and society, but in early periods his importance as a moulder of character was also fully recognized.

In non Muslims “Guru” was not only a teacher but also a guide to show the path of duty and righteousness. He was looked up as almost a God by the Hindus and addressed by them as “Gurudeva” or teacher guide-god. Such respect could not be earned without any justification which is given to a competent teacher.

In Islam a teacher is also looked upon with a great respect. This lead us to conclude that a teacher is a key stone in any successful formal education system.

Students

It is quite obvious that student has a pivotal position in any education system. He is the beneficiary of an education system. If the system of education is good, it trains students as capable and useful members of the society. Through good education a students latent capabilities are developed to the full and his talent finds fulfillment. His out look becomes healthy, his attitude towards life is constructive and his role in society is positive. He has self confidence and is free

from all complexes which inhibit initiative and motivation. To the extent that education is defective, it makes the development of the students personality and potentials.

If a system of education loses its vitality and produces sub standard graduates at all levels, it becomes the most pernicious agent in the whole sale moral degeneration of the society. It is also true that education system which lacks moral content and is in different to the higher, values of life may proves injurious. But when a system is both sub-standard and devoid of moral values, it ^becomes deadly poisonous. It destroys all and spare nothing.

It is true that good student makes good teachers because he keeps the teacher alert and anxious to keep himself upto date in knowledge. The teaching is becoming poor because our students do not care. They get the education they deserve. It becomes clear that in an educational system a student has an important role.

Administrators:

Administrator plays an important role in any educational system. The success of any system or policy depends on effective implementation and implementation is the responsibility of administrators. The system will be successful if the administrators in that system are committed to their field. We can divide the educational administration of Pakistan into following levels:-

1. Institutional Level:

Educational Institution is the lab or field where the educational system is practically launched. The head of the institution can evaluate the system in his/her institution, because actual output is shown in these institutions. These institutions provide information at grass root level. The role of administrator at institution is a keystone in an educational system.

2. District Level:

At district level the responsibility lies with the Executive Distt. Education Officer and his supporting officers. He is responsible for the quality of education in his/her Distt. His efficiency and expertise in his job assists the education system in achieving the objective at Distt level.

For higher education (colleges) the administrative head is Director of Higher Education (colleges) who controls and administers all the educational activities throughout the provincial colleges.

3. Division/Region Level:

At regional level every region has a Regional Director i.e. Army person (Colonel) and other staff who control all institutions with in that region.

All the regions are controlled by Director F. G. E. I (C/G) i.e. Brigadier in service from education core.

All the educational policies under this Directorate are launched/ conveyed by Director. All the activities, transfer/appointment etc. are done by the competent authority. Now the F.G.E.I (F/G) schools at station level are controlled by the concerned Station Commander. All admissions are done by the approach of station board.

4. Provincial Level:

Provincial Education Department is headed by Provincial Education minister and senior executives who are called Provincial Education Secretaries. The Provincial Education Secretaries are responsible for education in the province. They also arrange to implement the policy decisions taken at Federal level. For their assistance there are Deputy Secretaries and their supporting staff who are executive heads of their relevant departments in the education system.

5. Federal/State Level

At Federal/State level the Department of Education is headed by Federal Minister for Education, but the executive chief is Federal Education Secretary. He administers all the policy decisions at federal level and recommend it to the provinces for implementations. In the light of suggestions provided by provinces, planning for education is done at Federal level. When the decision is made then it is sent to the provinces as a policy document for implementation.

2. SELF ASSESSMENT QUESTIONS - I

- i) What do you know about the components of a formal education system?
- ii) What do you understand by the term “Curriculum” and discuss the elements of the curriculum?
- iii) How do you think that a teacher is supposed to be a keystone in an educational system.

Need for Integration of Population Education

Philip M. Hauser. Warren S. Thompson emphasized that one of the purpose of formal education is to prepare a young to cope with the complex problems of modern society, to participate actively in the community life and to

effectively deal with rapidly changing society. He further stressed that population change was of basic importance for the welfare of the society at large.

The idea to include the content of population in the school curricula was given by Iran Slesnick and Sloan Waylan for the first time. They used the term “Population Education” to draw attention to the fact that substantive content and focus of population education was different from sex education and family life education.

A workshop on population education was held in September-October, 1970 in Bangkok. The educationists from 13 Asian countries participated in the workshop. The participants recommended that the Population Education oriented contents may be incorporated into the school curricula. As a result of this workshop population education programmes were organised and launched in many countries of Asia.

The second, land-mark in the history of Population Education was achieved in 1974 in the form of World Population Plan of Action which proposed that “Educational Institutions in all countries should be encouraged to expand their curricula to include a study of population dynamics and policies; including appropriate family life responsible parenthood and the relation of population dynamic to socio-economic development and to International Relations.”

Some countries of the region have started teaching Population Education in the schools and in some countries it is at the planning stage. The main purpose of teaching population education is to prepare the young for adult life. It requires both presenting relevant information and teaching analytical processes that can be broadly applied by the adult individual in solving population related issues. Since population affects, directly or indirectly, all aspects of life, important population issues and methods of analysing population problems should be an integral part of school education.

Education also caters for the attitude values of an individual and social life. Where the environment, responsible parenthood and other population related issues are important national concern, they should find a place in the school curriculum so that the young ones of today are equipped with requisite skills and prepared to face these issues when they enter into their practical life,

The population concepts are closely related to social life and be easily adopted in school curricula. Through new teaching methods i.e. “Inquiry Learning”, “Values Clarification” and “Dramatization” etc., these topics can be effectively communicated, For Instance, by using “Inquiry Approach”, census data discussion may be simulated regarding fertility, family size, and socio-economic problems.

Population education is an important curriculum innovation because it draws its contents from a number of disciplines and organizes it around one or more subjects like Biology, History, Home Economics, Geography, Physics, Maths, etc. This process enriches all subjects by opening up new prospective.

Population Education course is the study of past, the immediate and the near as well as distant future. For instance a large number of people in countries and consequent youth dependence burden, is the result of past reproductive behaviour. All the came time, the population under 15 years of age at present carries-with it a momentum of population growth in the future.

Activity-II

Discuss amongst your fellows the meaning of formal education system and the, need for integrating population education concepts with it.

3. THE SELECTION OF CONTENT IN POPULATION EDUCATION

The nature and scope of content for population education are determined by the following factors:-

1. Approaches to curriculum organization of population education.
2. When should population education be introduced?
3. Feasibility and acceptance of population education concepts in existing curricula.

Approaches to Curriculum Development

Since population education is interdisciplinary in nature, it is related with various subjects. Most of the countries in the region have, therefore, used an integrated approach to include population education in school subjects. The following forms of approaches are being used for this purpose:-

i) Sub-Unit Approach

In this approach teaching units of population education are added to an existing unit in the curriculum. This practice is done in Philippines, Korea and Thailand. In Thailand a sub-unit on population education is called “Family Life” and is integrated into curriculum of interdisciplinary course called “Life Experiences” offered at elementary level i.e. 1-6 grade.

ii) Infusion Approach

This approach involves enriching existing units in the curriculum by including related content on population education. It substitutes examples in already existing materials. Through this approach content of the “mother subject” remains the same, only the substance of examples is changed.

iii) Permeation/Integration Approach

This approach involves the systematic incorporation of population education content into curriculum thus making it an integral part of the subject matter.

The arguments in favour of integration, approach are:-

- a) The curricula are already over loaded.
- b) Due to explosion of knowledge demand of traditional subjects is increasing day by day.
- c) Teachers specialized in population education are not needed.
- d) There is no problem of placement of population education at different levels of schooling.
- e) The students will learn more and easily, if population education concepts are integrated with other subjects.

In Sri Lanka and Indonesia, almost 70% of the population education integration is being followed.

Although the integration approach has been used in almost all the countries of Asia having population education programmes, it has been felt that population education concepts tend to lose their clarity in the process and their impact is lost. That is why some countries have started thinking of introducing population education as a separate discipline at secondary and tertiary level. This practice is being followed by China, Philippines and Thailand where in addition to integrated population education with social studies, it is also offered as an elective course at 6-12 level.

In spite of the fact that the goals of population education are almost similar. For all the countries, programmes have been developed to suit the socio-cultural and educational needs of the individual countries. For instance, the curricula of population education in Korea and Philippine included content relating to sexuality and family planning where as other countries have avoided including them because of socio-cultural factors in those countries.

In Pakistan both Infusion and Sub-unit approaches have been adopted. The later has been the methodology for subjects like Pakistan Studies and Languages where separate units and lessons on Population Education have been included in the curriculum and text. In this connection, Curriculum Wing, Ministry of Education, has undertaken the exercise of publishing revised population education oriented curricula in different subjects at school level. Similarly Allama Iqbal Open University has started a course for the orientation of teachers in Population Education and allied concepts at M.A. level.

4. SELF ASSESSMENT QUESTIONS-II

- i) Population Education is accepted as an inter disciplinary innovation, discuss briefly.
- ii) Identify and explain different approaches of integrating population education with the formal education system.

5. WHEN SHOULD POPULATION EDUCATION BE INTRODUCED?

Whether to introduce Population Education at primary, secondary or at both levels is an important question. Some countries of the Asian region are in favour of introducing Population Education at Elementary/ Primary level. The main reasons for introducing Population Education at Primary level are as under: -

1. In most of the developing countries the enrollment in primary stage is 2-4 time more than secondary level.
2. In these countries, the drop out rate is very high and less that 50% of the children enter into the secondary schools. So, it is necessary to give them at least some knowledge in population education so that they may help themselves and their communities.
3. Generally, the elementary school curriculum is flexible enough to introduce new ideas in it. In many educational systems there is no public examination at this stage, therefore, the chances for use of experimental materials are relatively high.
4. Some KAP studies proved that changes in knowledge, attitude and decisions are more significant among the elementary students than those of high and college levels.
5. In many rural areas people are married at an early stage soon after the

elementary stage. It is, therefore, important that these children should be acquainted with knowledge of population education of elementary level.

In South Korea and Philippines positive results are being achieved by introducing population education at both primary and secondary level because of the fact that the children at secondary level education have a greater level of maturity and understanding. They are also close to the child bearing age. It becomes dear that introducing population education at primary and secondary level is more significant.

Introducing population education at all levels is difficult as well as costly as it proved in South Korea, Philippines, India and Thailand.

In Pakistan, before the start of present Population Education Project, the focus was initially on primary stage where as some content related to population was included in the secondary school curriculum. However, the present project focuses on incorporation of population education related concepts both at Middle and Secondary levels.

Activity – III

Identify the level of education suitable to introduce population education in your country. Support your answer with sound arguments.

6. FEASIBILITY & ACCEPTANCE OF POPULATION EDUCATION CONCEPTS IN THE EXISTING CURRICULA

As has been discussed earlier, the common approaches used for the incorporation of population education concepts are infusion and integration. One of the common problems of integration is that majority of the population education concepts do not find their place in the textbooks. One of the reasons, besides the lack of interest and training of the textbook authors, is that the curriculum prepared by population education experts for integration is too ambitious. In enthusiasm about the population education programmes, they forget that the subject curricula are already overcrowded and addition of any new information is possible to a limited extent. It, therefore, becomes the responsibility of the population education experts to prepare such curriculum in population education which can be accommodated in the existing subjects. They should decide the priorities of concepts that they want to develop. There should be core concepts which the students must learn at different grades, levels and which must be accommodated in the existing curricula of “mother subjects”: or included in the separate course in population education. Further, there should be those concepts which should be included if feasible and there should be some concepts

which could be included if possible.

The Regional Workshop for the Development of Packages of Adequate Learning Requirements in Population Education organized by UNESCO Regional Office at Chiang Mai from 17th to 30th July, 1984, proposed the following core messages for population education. The contents for each of the core messages will, of course, vary from country to country, depending upon the needs and priorities of various target groups and socio-cultural background of the people. These core messages are as follows:

- Family Size and Family Welfare
- Delayed Marriage
- Responsible Parenthood
- Population Change and Resource Development
- Population-Related Beliefs and Values

The UNESCO Regional Consultative Seminar on Population Education held in Bangkok in September 1986 recommended the extension of these core messages to include adolescent fertility, family life education and aging.

The following matrix shows the grades, subjects of integration and major content areas of population education in some countries in Asia. It should be noted that the curricula in population education in countries with population education programmes have been developed to suit the socio-cultural as well as educational needs of the countries. Although the overall goals of population education at the school level are more or less the same, there are differences in the immediate objectives, content areas, subjects of integration as well as grades in which population education concepts have been integrated. For example, the curricula of population education in China, Republic of Korea and the Philippines include content relating to sexuality and family planning whereas other countries have avoided including them because of socio-cultural factors. Similarly, some countries have integrated population education concepts both at the primary and secondary levels whereas some have integrated at secondary level only. You will also find that the subjects in which population education has been integrated are also different in different countries.

7. MATRIX SHOWING GRADES, SUBJECTS AND MAJOR CONTENT AREAS OF POPULATION EDUCATION IN SOME COUNTRIES

COUNTRY	GRADE	SUBJECT OF INTEGRATION	MAJOR CONTENT AREAS
1. Bangladesh	4-12	Bengali, Natural Science, Social Science, Home Economics and Social Welfare. Mathematics, Vocational and Technical Education.	<ol style="list-style-type: none"> 1) Demography. 2) Population situation at national and international level. 3) Population growth and economic development 4) Population growth and social development 5) Population growth and family life. 6) Population growth and educational development 7) Population growth, food and nutrition, 8) Population growth and environment. 9) Population growth and health. 10) National and International policies related to population.
2. China	6-9 Class 8	Biology. Geography and Policies separate required course.	<ol style="list-style-type: none"> 1) Population education - Importance. 2) Environment. 3) World population situation. 4) Situation of Chinese population. 5) Control of population for modernization 6) Improving population quality. 7) Goal of control of population increase rate 8) Family planning 9) Demography and population planning.
3. India	1-10	Social Studies. Natural Science. Geography Economics Languages Sociology	<ol style="list-style-type: none"> 1) The population growth 2) Economic development and population 3) Social development & population 4) Health, nutrition and population 5) Biological factors - family life and population
4. Republic of Korea	4-12	Social Studies. Home economics Physical Education Geography and Science.	<ol style="list-style-type: none"> 1) Human reproduction and family planning 2) Family size and standard of living 3) Population and the environment 4) Population and the economy 5) The effect of population phenomenon on human life. 6) Population policies and progress

5. Philippines	<p>1-6 Primary</p> <p>1st and 2nd year of High School (7&8)</p> <p>3rd & 4th year of High School (9& 10)</p>	<p>Social Studies. Health Education, Elementary Science Mathematics and Home Economics (in grades 5 & 6)</p> <p>Social Studies. Health Education Mathematics. Home Making and Science (in 2nd year)</p> <p>Social Studies and Health Education</p> <p>Separate elective course at the secondary level</p>	<p>1) Demography, 2) Determinants. 3) Consequences. 4) Sexuality 5) Planning for the future</p>
6. Thailand	<p>1-12 Primary</p> <p>Lower Sec- ondary</p> <p>“Upper Sec- ondary”</p>	<p>“Life Experiences”</p> <p>i) One unit course on Population Education as part of social studies</p> <p>ii) As an elective “Environment”</p> <p>i) One unit course on Population and Quality of Life” as a part of social studies.</p>	<p>1) Family life 2) The Environment around us 3) The Thai Nation 4) Neighbouring Countries. 5) Population Education</p> <p>1) Population Dynamics. 2) Population situation 3) Factors affecting population change 4) Effects of population increase 5) Meaning of quality of life and how to improve it</p>
		<p>ii) As a separate elective course in the general schools and a required course in home economics in vocational schools</p>	

8. DESIGN FOR INTEGRATION OF POPULATION EDUCATION

As we have seen from the foregoing discussion that almost all the countries having national population education programme are using integration approach. The following design can be used for developing curriculum in population education for integration with the existing curricula and text books.

Formulation of Objectives of Population Education

First of all, the curriculum developers have to decide the long range as well as immediate objectives of population education for each grade in the light of the goals of education, the goals of population at the national level, feasibility constraints and socio-cultural values of the people.

Identification of Concepts

After deciding the objectives the next step is to develop the conceptual structure of population education required for the achievement of its objectives. The concepts are organized in order of their complexity at each grade/level.

Identification of plug-points in relevant subjects by grade/level

The existing curricula and textbooks for different subjects at each grade/level are analysed in order to find out the points where population education concepts can be plugged in. The population related concepts which are already in the curriculum and textbooks are also identified.

Development of Scope and Sequence of Population Education Concepts

The population education concepts are sequenced grade wise and subject wise. This can be done on a dimensional chart. The scope and sequence recommended is one which Bruner calls spiral curriculum. He writes, that if one respects the ways of thought of the growing child it is possible to introduce him at an early age to the ideas and styles that in later life make an educated man. It is called spiral because-the learner returns to familiar ideas and concepts, but presented through alternative examples, and at a higher level.

Development of Teaching-Learning Materials

The instructional materials for teachers and learning materials for students are developed using different methodologies. The process of developing curricular materials for teachers and students is a challenging one particularly

when dealing with value sensitive topics. A purely expository approach will not be effective. Population data and information become useful only as a means for concept attainment, clarifying one's values and in arriving at well-thought out generalizations that later become bases for decision-making about population issues. Problem-solving, values clarification, role-playing, games, simulation, etc., then become more appropriate strategies in dealing*with population problems and issues.

While elaborating on the conceptual framework in population education, it is advisable to think of the learning experiences and/or teaching strategies, the teaching aids and/or instructional materials, and the evaluation strategies that would be used. This will help to determine the kind of curricular materials that ought to be developed.

Integration of Population Education

In some cases curriculum and materials of population education can be integrated in the existing curricula and textbooks as a part of the ongoing curriculum improvement programme. Very often, one has to wait until the syllabi and textbooks of the mother subjects (subject in which to integrate) are revised. In many countries, a textbook has five to six years life span during which no revision or change is possible. In such cases supplementary materials have to provide to the students and teachers for integration in relevant subjects.

Evaluation of Curriculum and Materials

The population education materials integrated in different subject areas should be evaluated to find out whether the desired outcomes in term of cognitive and attitudinal behaviours have been achieved. In the light of evaluation necessary improvements are made in the curriculum and materials of population education.

Inclusion of Population Education in Formal System in Pakistan

At first, Population Education was taken by Family Planning Association of Pakistan -and now it has been taken up by Population Welfare Division. Recently, the Population Education unit has been created within the Bureau of Curriculum and Text Books of Federal Ministry of Education, but the Welfare Division is still providing funds for this purpose. Population Education was accepted as an academic valid area of study when it was included in the curriculum of Teacher Training in 1974 under the heading "School Community and Population Education. "Teachers guide" for primary teachers was developed to help them to teach population concepts included in the text-books of classes I-V and to devise simple audio-visual aids and class room activities that help to impart this knowledge in an effective manner.

Federal Ministry of Education in collaboration with UNESCO, Bangkok and Education Cell (Population Division) has developed a source book in Population Education for educational administrators, policymakers, curriculum planners, teachers, and text book writers etc.

A case study on Population Education and education policies was made in 1975. It was the first ever to coordinate the national education and population policies in Pakistan.

9. DEVELOPMENT OF CURRICULUM ON POPULATION EDUCATION IN PAKISTAN

Population education regarding curriculum development in Pakistan emphasis the following concepts:-

- Basic population concepts processes e.g. fertility, mortality and migration etc.
- The relationship of population resources, use of resources and need for new resources.
- The effect of change in population size, structure, mobility and its involvement in the development process and on the quality of life at the micro and macro levels.

Successful implementation of programmes of formal population education rests with the teachers, and the Ministry of Education and Welfare Division undertook the task of orientation courses for teachers training in population education. First of all, a group of 60 master trainers was produced in 1975, who were utilized for the training of teachers at the grass root level.

In the second phase 24000 teacher received training in Population Education.

AIOU has developed a correspondence course on population education for teachers in 1980. This course was supported by radio and T.V. programmes. Through the ongoing population education project about 20,000 teachers were trained through the correspondence course of AIOU.

Development of Content for the Integrated Textbook of Classes I-III

Integrated textbooks have been developed for classes I-III. Population Education component consisting of 2 lessons each has been developed to cover the subject areas of science and social studies for these levels. The content area covers the following:-

1. Family
2. Environment
3. Resources
4. Uving things, their growth and survival

Development of Curriculum Content for Classes IV-X

Population Education concepts have already been partially introduced into the textbooks of Class, I-X, but there are still gaps in the sequential development of content and certain given area need strengthening. The first step would be the review of existing curricula and text content to determine the extent to which Population Education concepts already exist in them and to identify the scope and content areas of additional concepts which need to be integrated. Educationists, with a background of Population Education, have undertaken this exercise. The committee of 2 members was assigned 3 groups of primary, middle and secondary levels.

Development of Curricula Contents on Population Education for XI-XII

The Federal Ministry of Education is in the process of finalizing the curricula for class XI-XII. The first draft of revised curricula in different subject have been prepared for most subjects and have been circulated for comments. The subject areas at the intermediate level which lend themselves to the incorporation of Population Education.

1. Biology
2. Geography
3. Commercial Geography
4. Civics
5. Home Economics
6. Economics
7. Sociology and Social Work
8. Health and Physical Education
9. Pakistan Studies
10. General Science

Similarly, the Federal Ministry of Education undertook a vast exercise of curriculum review from classes VI-XVI. For each of the relevant subjects, suitable Population Education content was included.

Adaptation of Curricula Contents for Classes IV-X at the Provincial Level for Integration into Text-Books

The scope and sequence of Population Education Curricula content developed at the national level will be adopted at the Provincial level for integration into the textbooks. This review and adoption has been undertaken through a meeting of Provincial Curriculum Specialists, Selected Teachers Textbook Writers and Population Education Specialists. There have been 4 adoption meetings, one in each province. As a result of these efforts, the population Education content in the textbooks which has been clearly delineated is in the process of being translated, into text.

Development of Teacher's Guides and Source Book for Teachers of Various Levels

Teachers guides on Population Education will be required to provide the teachers with the necessary background information on population and the methodology for effective classroom instructions. During this project period, Teacher Guides will be developed for the middle and secondary levels. The existing "Teacher's Guide" for primary teachers and the training package for Population Education (developed by the Family Planning Association of Pakistan and the Education Cell of Population Division) will be revised, updated and utilized for primary teachers training. Similarly, the earlier source book on Population Education has been revised and updated and teaching modules on Population Education have been developed.

Development of Audio Visual Aids and Teaching Kits for Population Education Classes I-X

A 10 days workshop, with ten experts in audio visual aids, teachers, curriculum experts, artists and representatives of the Population Division, was organized. The prototypes of the audio visual aids and teaching kits developed at the national level will be reviewed for adaptation in each province.

Development of Orientation Materials in Population Education for Teachers of Classes XI-XIII

A committee of 10 writers was constituted, who met for 5 days to prepare the content outlines for the different subjects.

Teacher Training in Population Education

Training was provided to teachers at all levels i.e. primary, middle,

secondary and post-secondary. Trainers will be (a) Subject Specialists of the Provincial Bureaus of Curriculum (b) Master Trainers of the Teacher Training Institutions and Education Extension Centres (c) Personnel of the Population Welfare Division (d) Experts from the Allama Iqbal Open University and other Universities and agencies.

Training of 20,000 Teachers through Correspondence Course of the Allama Iqbal Open University

As already mentioned, the Allama Iqbal Open University has completed the training of 20,000 teachers in Population Education through correspondence course. These courses are supported by the Radio and Television Programmes. The University is going well on target in this regard.

Training of 20,000 Primary, Middle and Secondary School Teachers Through three days Workshops

320 Workshops were organized during the project period with at least 50 participants in each course.

Apart from the Population Education Project, the Population Welfare Division has set up two Population Study Centres, one at the University of Karachi. These Centres will provide certificate, diploma and degree courses in population studies at the graduate and post graduate levels. The Allama Iqbal Open University, on its own, has also established the Department of Population Studies which is offering Intermediate, B.A. and M.A/M.Ed. level courses in demography, community and other similar content areas.

10. SELF ASSESSMENT QUESTIONS - III

- | | |
|------|---|
| i) | What are the core messages for population education proposed by UNESCO in 1984. |
| ii) | Prepare a design for developing curriculum in population education for integration with the existing curricula. |
| iii) | Critically evaluate the development of curriculum on population education in Pakistan. |

11. QUALITIES OF POPULATION EDUCATION TEACHER

It is a fact that the child has a central position in teaching learning situation, but the situation need expert teachers. It is the teacher who can make the teaching environment pleasant by adopting suitable methods and techniques of teaching. It is clear that a lesson delivered by the teacher in an interesting way is certainly more effective and ever lasting. The presentation of new theory and its success mostly depends on the behaviour and aptitude of the teacher. Population Education is a new field of study and getting popularity in the Asian countries. It is necessary that this should be taught by an expert teacher having the following characteristics:

1. It is necessary for the teacher of population education that he/she should be well acquainted with the subject matter alongwith the factors affecting the teaching-learning situation. He/she must know the historical background and requirements of the subject. He must be able to use proper knowledge, ideas and basic facts about population education while teaching this subject.
2. The teacher has a leading role in the society. It is a fact that a teacher can bring revolution in the society. Hence teacher of population education should possess the qualities like commitment, devotion, boldness, and effective communication etc. Above all he should face all negative criticism with a smiling face and be determined to achieve his target in all situations.
3. The achievement of the objectives depends on the role of the teacher and his/her behaviour and attitude towards work. If the teacher is fully aware of the objectives, he will contribute positively in the achievements of these objectives. The teacher must be very clear about the problems relating to population education and must know proper solution and required resources for this purpose. For instance, population explosion is a major problem now-a-days in the developing countries. In this connection the teacher of population education should have the latest information and knowledge about the rate of increase in population as well as the development of resources. He must know how a balance can be maintained between population and the resources.
4. It is very necessary for a teacher to have the knowledge of socio-economic background of the students, because this factor deeply influences the habits and aptitude of the students. The teacher should adopt different methods and techniques of teaching while teaching population education in different situations.

5. There is no secret in it that manpower is the real financial and economic power of a country. The expertises are required in the fields of agriculture, industries, trade and other resources of the country. The personnel activity taking part in these fields are the backbone of a country. The teacher of population education should be aware of the ratio of these working personnel with that of other sections/groups of rest of the population. It is the duty of the population education teacher to communicate adequate and effective information to his students so that they can take active part in the development of their country and also help in solving population related problems.

Many terms are being used in population education which must be known to the teacher of population education. The teacher of population education must have the knowledge of the following too.

- Family size and its effects on living standard
- Migration of population from villages to big cities and related problems and their solutions
- Rate of increase of population, crude -birth -rate, death-rate, and their implications
- Available facilities to the people in the fields of Nutrition, Residence, Medical, and Nutritional facilities, etc.
- Response towards the approach of the educated population in particular and of community in general
- Preparation of AV-Aids
- Socio-economic factors
- Moral/Religious values and population education
- The norms, customs etc. related to these problems

Activity - V

Suppose you are asked to appoint some teachers of population education for formal education system, enumerate some characteristics you would like to see in these teachers?

12. SUMMARY

It is true that a child has central position in teaching learning situation, but this process fails without a competent teacher. He can make his presentation interesting by adopting new and suitable methods in the teaching of population education. There are some qualities of a teacher which makes him/her a good population education teacher. Some of these are as follows:

- i) Well acquaintance with the subject matter.
- ii) Ability of leadership.
- iii) Professional attitude and behaviour towards work.
- iv) Knowledge of socio-economic background of student.
- v) Awareness about the manpower and its role in the development of a country.
- vi) Awareness of terms being used in Population Education.
- vii) Awareness of moral/religious values and population education.

13. SELF ASSESSMENT QUESTIONS – IV

Study the following statements carefully, and identify true and false statements:

i)	A teacher has a leading role in the society.	T	F
ii)	A child has a central position in teaching learning situation.	T	F
iii)	Achievement of the educational objectives only depends on the role of the teacher and his attitude towards his work.	T	F
iv)	Manpower is real financial and economic power of a country instead of labour force.	T	F
v)	The larger is the size of family the lesser is the living standard of that family.	T	F
vi)	The high rate of increase in population does not effect the socio-economic conditions of a country.	T	F
vii)	The development of a country rests on the shoulders of the working personnel.	T	F
viii)	A.V. Aids promote the teaching learning environment.	T	F

Key Self Assessment - IV

i)	T	ii)	T
ill)	F	iv)	F
v)	T	vi)	F
vii)	T	viii)	T

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**POPULATION EDUCATION
AND
NON-FORMAL EDUCATION**

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CONTENTS

	Page
Objectives	162
1. Introduction	163
1.1 Meaning and Nature of Population Education	163
1.2 Meaning and Nature of Non-Formal Education	165
1.3 Need for Integrating Population Education with N.F.E.	165
2. Process of Integration	166
2.1 Situational Analysis	166
2.2 Formulation of Programme Objectives	167
2.3 Preparation of Work Plan	167
2.4 Implementing the Work Plan	169
2.5 Evaluating the Programme Results	169
2.6 Redesigning the Population Education Programme	170
Self Assessment Questions - Exercise No. I	171
3. Approaches To Integration Of Population Education	172
3.1 The Separate Unit Approach	172
3.2 The Infusion Approach	172
3.3 The Core Learning Kit Approach	173
4. Major Content Areas of Population Education to Be Integrated	174
5. Health Education and Non-Formal Population Education	176
6. Types of Population Education Materials	178
6.1 Motivational Materials	178
6.2 Instructional Materials	180
6.3 Follow-Up Materials	181
7. Problems in Population Education And Suggestions for Improvement	182
8. Summary	184
Self Assessment Questions-Exercise No. II	187

OBJECTIVES

Having studied this unit intensively, you are expected to be able to:-

1. Narrate the meaning and nature of population education and non-formal education.
2. Describe the need and importance of integrating population education with non-formal education strategies.
3. Undertake the process of integrating population education with non-formal education.
4. Describe the different approaches of integrating population education with N.F.E.
5. Identify the major content areas of population education which may be integrated with N.F.E.
6. Explain the need for dove-tailing health education concepts with population education and the major concepts/themes that may be integrated with the N.F.E.
7. Identify the different types of materials and the specimen messages they may carry for population education through N.F.E.
8. Offer some workable suggestions for promoting the cause of population education through non-formal techniques.

1. INTRODUCTION

1.1 Meaning and Nature of Population Education

As you have already studied in the earlier units, the concept of Population Education is relatively a new and emerging one. As a matter of fact it is still in the process of definition and redefinition. It aims at the alleviation of poverty from amongst the masses and at bringing development in the mankind through a thread-bare analysis of population related issues and problems. The idea of Population Education was first of all conceived by Alva Myrdal in 1941 in her book entitled “Nation and Family”. In this book she made an attempt to convince the American readership in general that it is quite impossible to separate population policy from socio-economic development plan of a country because actually they, are one and the same thing.

The wide spectrum of the people interested in this emerging concept has consequently led to quite a diversified approach to it and resulted in so many definitions. However, the most widely used and the most comprehensive definition of Population Education was developed in the UNESCO Regional Workshop in Population and Family Planning Education held in Bangkok in September/October, 1970. This definition reads as follows:

“Population Education is an educational programme which provides for a study of the population situation in the family, community, nation and world with the purpose of developing in the students rational and responsible attitudes and behaviour toward that situation.”

As can be gathered from the above definition, Population Education emphasizes the welfare concept of human beings through adopting a reasonable policy of population change which should ultimately lead towards the prosperity of the people at large. Population education is an outgrowth of the aims and scope of education in the modern day world. Currently, education is no more concerned with just transferring knowledge or factual information alone. As a matter of fact, it seeks to develop in the learners positive interests, attitudes, values and a capacity of critical understanding and analysis of the phenomenon under study. We see that hectic efforts are being made to make the curriculum of different educational programmes more need based, and instructional process more community oriented. This development

As objectives of education has led educationists to look for new disciplines that may be used for solving multifarious problems confronting the humanity in the present day world. Undoubtedly, population education is one of such disciplines.

Activity

Briefly note down what you understand by the term “Population Education” and discuss the same with senior educationists in the area.

1.2 Meaning and Nature of Non-Formal Education

Like that of Population Education, the concept of Non-Formal Education is also relatively a new one and of recent origin. It has been used in different contexts in different countries; but broadly speaking, as the term denotes, it is that sort of education which is not formal. It may however, be mentioned that it does not at all refer to non-formal modalities representing an entirely a loose, disorganised and incidental sort of learning. Non-formal education strategies lie outside the purview of the formal education set-up but at the same time, quite organized and systematic efforts with well-defined objectives in view. So Non-Formal Education may be defined as:-

“Any deliberately organized educational activity, outside the established framework of formal school university systems, principally for out-of-school youth and adults, for the purpose of communicating ideas, developing skills, changing attitudes or modifying behaviour related to the realization of development goals and the achievement of higher standards of living and the welfare of the people”

It may also be pointed out here that the use of alternative channels for promoting the cause of education amongst the out-of-school population also falls within the purview of non-formal education strategies. No body can deny the fact that the various forms of correspondence courses, with or without the support of radio and television, and also occasionally supported by non-broadcast media, open schools and similar other instructional arrangements etc. all aim at providing education to the masses by creating a situation which is obviously not formal in characteristics. They are the people who, for one reason or the other, could not get or continue to get their education from the traditional or formal system of education. The unprecedented rate of population growth and a tremendous dropout rate at the primary level, in the world in general and in the developing countries of the Asian Region in particular, stand out to be the most potent factors which have necessitated the search for and adoption of the new/non-conventional modes of imparting education to the ever increasing number of people. So, briefly speaking, these non-conventional methods of meeting the educational needs of the people all constitute quite a wide spectrum of non-formal education modalities.

1.3 Need for Integrating Population Education with N.F.E.

No body can deny this hard fact that one of the most formidable problems confronting the world in general and the developing countries, especially in the Asian region, is the tremendously increasing rate of population growth. Obviously, this alarming situation has resulted in several unsurmountable difficulties in providing the minimum and basic necessities of life to the masses of this region. We can imagine the gravity of the situation from the fact that nearly two-third of the entire human population on the surface of this globe is living in the Asian region. Furthermore, majority of the population of the Region is dwelling in rural areas which are conventionally not prone to the rapid change or transformation. Resultantly, they are the people, who are relatively deprived of the modern amenities of life available to the city dwellers. They are the people who are the major cause of this unprecedented population growth in the present day world. They are the people who need the population education to approach through the conventional modes of delivery. The all out efforts made so far to reach this segment of the population through formal means have almost ended in failure, except in very rare cases. So the fast rate of population growth in this Region especially in the rural segment of its population in the modern era has led the educational planners and curriculum developers to explore, try-out and adopt newer modes of delivering education to the people. This is simply because of the fact that the conventional methods cannot cope with the multiple educational needs of the fast growing population in the modern times. Understood in this context, the need and importance of integrating education in general and Population Education in particular with Non-formal Education cannot be over-emphasized, especially for the developing countries who do not have enough resources to provide education to their masses through the centuries old system of formal education. Sticking to the old/traditional system in this new age would mean that the masses would be left just without any exposure to population related issues and problems. In the developing countries, with enormous financial constraints, obviously, we cannot manage the traditional/formal system, for the orientation of the masses in population education. Furthermore, the saturation point reached by the formal education curricula of different levels due to the incorporation of other equally, if not more important, concepts, may be put further as another dimension of the inability of the system to accommodate population education concepts for a very wide variety of the out-of-school population.

Activity:

Discuss amongst your colleagues the meaning of non-formal education and the need for integrating population education concepts with it.

2. PROCESS OF INTEGRATION

The process of integrating population issues with non-formal instructional strategies consists of the following steps:-

2.1 *Situational Analysis:*

Before we actually embark upon the task of integrating population related concepts with non-formal instructional strategies, the very first thing to be done is to have a detailed bench-mark analysis of the situation obtaining in the field. This activity, known as “situational analysis” would yield necessary information about a number of variables like the following ones.

The Teacher/Instructor:

The teacher/instructor is the most crucial agent of any change process. Situational analysis would provide very significant information about the background knowledge and attitude of the teacher towards population related issues and problems. In case there is found to be any deficiency in this regard the same may be made up through short orientation courses so as to prepare him mentally for the task of popularizing population Education concepts amongst the target clientele. In view of the findings of the situational analysis, appropriate materials may also be developed for the continuing education of the teachers in this emerging field and other allied areas so as to enable him keep himself abreast of latest developments in this discipline.

The Target Clientele:

A detailed and carefully conducted situational analysis must clearly identify, in addition to the general profile, their age structure, diversified need, interest, and problems of the clientele for which we intend to plan, design and launch a non-formal population education programme. Planners of non-formal population education programme must be skilful enough to appreciate that any such programme launched without taking into account their values, attitudes, potentialities, behaviour, patterns, weaknesses and strengths is obviously bound to fail. The situational analysis must, therefore, take into account all these aspects of the target clientele.

The Psycho-social Climate:

In addition to having a detailed picture of the specific target groups, it is also advisable to undertake a complete analysis of the psycho-social

climate prevalent in at least that part of the society. No amount of the adequacy of material and motivation on the part of teacher can even assist in the achievement of the objectives of a highly sensitive area like that of population Education unless there exists a favourable situation in the society for whom the programme has been designed. The planners of any such programme must, therefore, know and understand the complexity of the socio-economic set-up of the target community, its structure, problems, beliefs, attitudes and other relevant aspects.

2.2 Formulation of Programme Objectives:

Every instructional activity, irrespective of its content, is invariably a goal oriented activity. So immediately after situational analysis comes the very important stage of the formulation of aims and objectives of the programme of population education. The terms aims, goals and objectives, though appear to be quite synonymous, happen to have quite distinctly different connotations. But at this stage we would not be discussing their difference from each other. The point which needs to be emphasized here is that the developers of materials must keep in mind the ultimate destination where they want their clientele to go or what are the attitudes values and behaviours which they want to develop and which they want to eliminate from amongst them in order to enable them adopt viable population practices leading towards the betterment of their individual as well as collective life.

It may be pointed out here that the formulation of achievable objectives of a population education programme makes quite heavy demands from the curriculum developers. They have to be quite realistic in approach while determining the objectives and then putting them in the form of statements which must be understandable not only to the implementers of the programme but also to the very persons for whom the programme exists. There is no need to emphasize the point that the objectives have to be put in a palatable form so that the same become socially acceptable to the target people.

2.3 Preparation of Work Plan

Formulation of aims and objectives is followed by the preparation of a work plan for putting into action the different inputs pertaining to the programme in view. Preparation of an implementable work plan is a highly technical activity requiring a lot of presence of mind, deep understanding of the complexity of the relevant activities and several other similar things on the part of the person preparing the document. Under each objective of the programme, there have to be mentioned the major out-puts which, in turn should have to be split up into different activities. In addition too many fundamental data about the programme,

the work plan clearly indicates the following:

- What are the different activities required to be undertaken?
- What is the schedule of these activities?
- What is the detailed description of the venues of these activities?
- Where and how are the required services and resource persons identified?
- How are the resource persons to be contacted?
- Who is going to contact them, when and how?
- What are going to be the instructional strategies?
- What is the avenue of different individual activities?
- Who is going to prepare, try-out, improve and finalize the instrument/s for evaluating the impact of the project activities in population education?

Though all the activities of the work plan are equally important in their individual places, yet special mention may be made of the criteria of selecting the instructional materials for non-formal population education programme. This is because of the fact that only a valid and carefully selected and effectively presented set of instructional materials can ensure the achievement of the predetermined objectives of the programme. Different aspects of the criteria that may serve as a guide for the writers and editors of non-formal population materials may be briefly mentioned as under:

- To what objective/s would the materials make substantial contribution?
- Is the content information-wise accurate and level-wise appropriate for the purpose in view?
- Is the content relevant to the maturity, experiences needs and interests of the target group?
- Is the nature of the medium appropriate to the learning tasks?
- Does the material come upto the reasonable standard of technical quality?

If the material developers are skilled enough to appreciate these aspects of producing the instructional material and its execution takes place effectively as scheduled in the work plan, we may expect the programme objectives to be achieved.

2.4 *Implementing the Work Plan*

This stage pertains to translating the blue print prepared in the form of work plan into action as per schedule. This stage require in time availability of the requisite funds as well as the appropriately trained manpower to carry out the activities as scheduled in the Work Plan. It also requires a quite Vigilant Project Manager/Director who must effectively monitor the implementation of different activities of the project. This also requires a sort of well coordinated team efforts so as to ensure in time action and achievement of objectives of the Project in an efficient manner. For example, it is necessary that motivational materials must be ready before holding any briefing session for the motivational staff for the popularization of population related concepts and practices in the target area.

2.5 *Evaluating the Programme Results:*

By evaluation we mean the process for determining the extent to which the programme objective/s has/have been achieved. According to D. K. Wheeler, the aim of the evaluation phase is to produce evidence about the nature and extent of behavioral changes which arise from educational endeavours, and to use this evidence as guide for modification in any phase of the curriculum process. Hence, the population programme needs to be evaluated in order to determine its success in bringing out the desired outcomes in the target clientele. These desired outcomes of a population education programme could be many e.g.

- adding to the knowledge base of the target people, the number and types of population services available in the area,
- creating a new outlook in the attitude of the clientele regarding issues and problems about population related matters
- providing for some physical facilities as programme out-puts in the area for facilitating the achievement of population related objectives.

While undertaking the evaluation of population education programme, it is highly imperative that the evaluator/s also keep in mind the following aspects of the programme in view:

- instructional objectives of the population education programme,
- content and the format of the subject matter identified for the achievement of programme objectives,
- suitability of the instructional methodologies and delivery modes adopted,
- nature and types of learning experiences provided to the clientele.

It may be pointed out here that the evaluation of population education programme enables the evaluating agency to compare the actual outcomes with the expected outcomes or objectives; and to arrive at conclusion about this comparison with a view to planning for future action in this regard. Since without some system of bench mark, it is absolutely impossible to ascertain whether behaviours in the form of knowledge, attitude and practice and so on have been instilled, inhibited or altered, it is essential to have complete information about the entry behaviour i.e. the level of knowledge and practice possessed by the clientele individually as well as collectively before the start of the population education programme in the target area. Results of evaluation, or the lessons learnt during the implementation of the programme and the experiences gained may be successfully utilized for redesigning and launching the population education programme for implementation/replication with or without certain modifications.

2.6 Redesigning the Population Education Programme

As already pointed out above, the main aim of undertaking evaluation of population education programme is to plan for future action in respect of the programme. The management must, therefore, capitalise upon the results of the programme implementation as assessed through evaluation and adopt an improved strategy for implementing the programme for achieving the predetermined objectives in a befitting manner. In other words, the redesigning stage has to take into account the experiences gained and the lessons learnt during the implementation of the programme in its first phase.

Activity

Suppose you are required to launch a programme of population education for out-of-school population in a certain area. Mention in the form of points (in the space provided below) the process you would follow for integrating it through non-formal education activities.

SELF-ASSESSMENT QUESTIONS NO-1

- i) Define Population Education. How do you think it can serve the cause of human welfare and socio-economic development in developing countries of this Region? Explain.
- ii) What is non-formal education strategy? How can we make use of non-formal education strategy in popularizing Population Education.
- iii) Enumerate and explain the different stages of the process of integration of population education with non-formal education strategy.
- iv) What is a work plan? Bring out in detail its significance in implementing the programme of non-formal population education in a developing country.
- v) Go through the following statements minutely and tick TRUE or FALSE against each of the statements.
 - a) By population education we mean a system of educating the population of country. TRUE FALSE
 - b) Non-formal education refers to face to face classroom teaching. TRUE FALSE
 - c) By integrating population education concepts in non-formal strategies, we can deliver the message to a maximum number of people in a cost effective manner. TRUE FALSE
 - d) Formulation of objectives falls after the preparation of Work Plan. TRUE FALSE
 - e) Evaluation of a non-formal population education helps us in improving the implementation strategy during the subsequent phase. TRUE FALSE
- vi) Write short notes on the following:
 - a) Situational analysis.
 - b) Bench mark information or criteria for judging the relevance of instructional materials.

3. APPROACHES TO INTEGRATION OF POPULATION EDUCATION

As already discussed in this unit, it is desirable to integrate population related concepts in other development programmes designed for the out-of-school population in the field. A close analysis of the situation reveals that different countries of the world have adopted different approaches for integrating population education concepts for the orientation of out of school population. According to UNESCO sources, following are some of the approaches adopted for the purpose.

3.1 The Separate Unit Approach

Under this approach, a separate study unit is prepared on population related concepts desired to be imparted to the target people. The unit may be presented in some logical sequential order along with the rest of the study units. This approach is usually adopted in the curriculum designed for the training of field workers and also in the population oriented curriculum for out-of-school population. For example, separate chapters/units may be written covering the following themes on population education:

- Factors affecting population in the area i.e. causing increase/decrease in population,
- Fertility and mortality rates.
- Health and sanitation
- Major diseases: their treatment and prevention.
- Balanced diet.
- Health and Child Care.
- Family welfare.
- Conservation of resources.

Keeping in view the extremely low level of literacy and also the general status of socio-economic development in Asian in general and in the developing countries particular, it is quite crystal clear that the separate unit approach may not be appropriate for attacking the problems in view. So for that purpose, we need to have another approach.

3.2 The Infusion Approach

The Infusion Approach may be adopted as an alternative to the separate approach in relatively developing countries of this Region. Under the Infusion Approach, the experts identify the relevant concepts in population and present

them in an integrated way during the presentation of the content of some appropriate subjects. For example, population related concepts may be incorporated as a common running thread through all the different incorporated as a common running thread through all the different chapters of an orientation course on agriculture, home economics, health education etc. This, however, requires a professional expertise on the part of the curriculum formulator as well as the writer so as to present the concepts in a coherent way along with maintaining the spirit of the main course.

In Pakistan, the curriculum Wing of the Federal Ministry of Education has adopted this approach and integrated population related concepts in different subjects at primary and secondary levels. In the context of non-formal population education programme, quite a good number of population related concepts may be presented to the target clientele making the same palatable by integrating them in a variety of topics of everyday concern. This approach, however, again requires a minimum acceptable level of literacy in the target clientele. Our problem still remains unsolved in the case of illiterate clientele. So for that purpose, we have to look for another suitable approach equally workable in the case of extremely low level or with no literacy at all.

3.3 The Core Learning Kit Approach

This approach has generally been found to be more appropriate for the people with low or even no literacy.

In this approach, the presentation of population related concepts is not tied with some other course content as was done in the case of infusion approach. On the contrary, the programme functionaries undertake a detailed survey of the target community for determining the needs and interests of the target people and identify the relevant concepts in population education. Then these concepts are translated into a series of learning activities and materials appropriate for non-formal education technique. The learners, while accomplishing these and or going through those materials are supposed to know, understand and internalize the concepts presented through the core learning kit. The broad content are of population education when split up into sub-topics, independent of any other course, present the example of core learning kit approach. As quoted in UNESCO material, the Population Centre Foundation of the Philippines is trying this approach and developing appropriate materials for popularizing the population related concepts among the target masses.

Each one of the three approaches presented above have got its own minus plus points. In view of socio-cultural situation obtaining in a country, the programme authorities may adopt one approach or the other in non-formal population education programmes. There is, however, no reliable evidence to

prove the superiority of one approach over the other. It may, however, be pointed out here that since most of the countries in the Asian region, leaving aside the few developed ones, are generally speaking traditional in culture, it appears that for a majority of them it may be better to adopt the core learning kit approach or at the most the infusion approach. However, for the developed countries of the region like the Philippines, Japan, and Korea etc. We may safely adopt the separate unit approach.

Activity:

Interview the senior educationists in your area/town and seek their opinion regarding the most appropriate approach for integrating population education concepts through non-formal techniques for the masses of the area.

4. MAJOR CONTENT AREAS OF POPULATION EDUCATION TO BE INTEGRATED

Population Education is an expanding new discipline which has got immense significance for the masses of the developing countries in the sense that it is supposed to help the people understand their everyday life family problems and adopt viable solutions for the same. Since it covers the entire spectrum of man's life, its content is quite wide. Any how, for the purposes of integration in non-formal education setting, we may identify the following as the major content areas that may be integrated for this purpose:

i) Demography:

- Basic concepts of demography.
- Population situation at local and national level.
- Human reproduction and family planning.
- Factors of change in population situation.
- Demographic processes and measures.
- Major problems of rapid population growth.
- Population and economy.
- Population and environment.
- Biological aspects affecting population growth.
- Sex education.
- Planning for the future.

ii) *Quality of Life:*

- Family size and Family welfare.
- Aspects of a happy family life.
- Advantages of having a planned family
- Relationship between planned family and improved standard of living.
- Planned use of resources for meeting everyday needs.
- Conservation of resources.

iii) *Health and Sanitation:*

- Child care and health.
- Different diseases: their control and treatment.
- Balanced diet.
- Health, nutrition and population.
- Nutrition value of different foods.

iv) *Socio - economic Development:*

- Population change and economy.
- Population growth and socio-economic development.
- Family size and per capita income.
- Manpower and economic development.

v) *Population and Environment:*

- Population growth and environment.
- Population growth and deforestation.
- Urbanization and its impact on health
- Pollution and its effects on public health.

vi) *Population Education and Socio-cultural Values:*

- Socio-cultural values and their impact on population growth.
- Religious beliefs and population growth.

It may be mentioned here that the list of content areas of population education identified above for integration in non-formal instructional strategies

are not exhaustive. It is just suggestive in nature. As a matter of fact, the discipline of population is so wide in scope that it is not at all possible to chalk out a list of its content areas for integration in an educational programme. Since it encompasses the entire spectrum of human life, extensive research work needs to be undertaken for situational analysis in the target area for identifying the needs, interests of the people. Only the findings of such an analysis can provide necessary guidance in suggesting the population related concepts that may be integrated in any instructional activity.

Another note of caution needs to be given here. Since the out-of-school population in almost all the developing countries of this Region happens to consist of several heterogeneous groups, it would be advisable to identify separate content areas for each of these categories. As a matter of fact there is no end to this activity. So for that matter, periodic surveys may be undertaken in the target area with this end in view and then the list of content areas supplemented from time to time.

5. HEALTH EDUCATION AND NON-FORMAL POPULATION EDUCATION

As we already know, population education is basically a programme of human welfare based on a critical understanding of the phenomenon of population and the ensuing issues and problems in an area. One of the basic indicators of the welfare of people in an area is their health status. This is because of the fact that only a good health enables a person to plan and undertake the different activities of life in an effective manner. The famous maxim of “sound mind in a sound body” clearly establishes the significance of health in ones life.

The picture of general health status of the people living in the Asian region in general is not enviable. Annual protein intake is extremely low. Rapidly growing population and resultantly the fast pace of urbanization is causing immense pollution, which is in turn telling upon the health of the people. As a result of that, there are several types of diseases and ailments prevalent in the region. Leaving, aside the exceptions of few well to do segments of population in some big cities of some countries, most of the population does not have access to the acceptable standard of health and medical facilities.

The picture of health condition of the people at large is actually more bleak than what has been presented in the above few lines. So this unhappy state of affairs does necessitate the inclusion of a package of health education in any programme of non-formal population education in this region. Consequently, we may suggest the major contents for this purpose as under:

i) *Food and Nutrition:*

- Nutrient values of different foods.
- Major constituents of balanced diet.
- Weekly schedule of diet.
- Diet of pregnant women
- Preservation of fruits and vegetables.

ii) *Health and Sanitation:*

- Maintaining the premises clean.
- Avoiding the rotten fruits etc.
- Disinfection of the living premises.

iii) *Major Diseases and their Control:*

- Symptoms of major fatal diseases.
- Preventive measures of different diseases.
- First aid measures for different major diseases.
- Use of indigenous/locally developed practices.

iv) *Marriage and Child Rearing Practices:*

- Advantages of late marriage.
- Providing education to children and arranging for their jobs before they get married.
- Taking special care of food for pregnant women.
- Safe delivery practices.
- Immunization of children from diseases.
- Preparation of diet appropriate for children.
- Use of ORS (Oral Rehydration Salt) in curing diarrhoeal diseases.

Health education concepts need to be imparted to the target clientele in an integrated manner with the help of a variety of instructional material. Since, in some of the developing countries of the Region, quite a good many health hazards may be due to traditional deep-rooted and superstitious practices, it is highly imperative that a carefully designed and tactful approach may be adopted for introducing the desired change in the behaviour, attitude and values of the people.

Activity:

Have a close observation of the general health status of the people living in the area around you and identify some other concepts for integration in non-formal population programme.

6. TYPES OF POPULATION EDUCATION MATERIALS

Adequately integrated learning materials undoubtedly occupy an immensely important place in non-formal population education programme. This is because of the fact that the achievement of objectives of any such programme is possible with the help of such materials which serve as the carrier of the population related messages to the target groups. Two workshops on the materials of population education arranged by the UNESCO Regional Office have identified the following three purpose. They are briefly described as under:

6.1 Motivational Materials:

It is an admitted fact that the clientele of non-formal population programmes needs relatively greater motivation in order to convince them to use the instructional materials. So for that purpose, motivational materials have to be prepared before presenting the actual learning materials. As the objective “motivational” indicates, such materials are conceived, planned, designed and developed with a view to create an awareness and interest among the target audience about acquiring the need-based information in population education related issues and problems. In this way, such materials create an urge in the audience and prepare them mentally for acquiring the relevant information. Motivational materials, for reaching the out-of-school target groups through non-formal strategies, may be developed in the following forms:

6.1.1 Posters:

Poster is quite a common concept and people are generally aware of it. Posters are easy to carry and handle. They may be prepared showing variety of family situations intended to convey several messages like the ones given below:

- a. For better health, grow more vegetables and have a small family.
- b. For more adequate foods make your family small.
- c. For better health, space your children as you space your plants.
- d. A well fed and scientifically managed poultry brings satisfaction and good health and education to family members.

- e. Pregnant women should take nutritious foods with right kind and quantity to keep themselves and their babies healthy.
- f. Plan your family for a better future.
- g. Keep your family small in order to ensure better health of family members.

6.1.2 Illustrated calendar:

As the word “Illustrated” indicates, such calendars are meant to convey population related messages to the out-of-school population through pictures by creating visual impact on the , target audiences. The illustrated calendar may show:-

- a. Healthy children living in neat and clean environment.
- b. People with poor health living in dark and dingy houses.
- c. Different developmental stages of a healthy child over a period of time.
- d. Healthy activities of a family.
- e. Future plans scheduled to be implemented at different times.

6.1.3 Cartoons:

Cartoons appeal every body whether young or old. Hence message intended to deliver by effectively prepared cartoons must have the desired effect on the target audience. Cartoons may be prepared to deliver messages to the out-of-school target groups like the following:

- a. Having big family is most likely to create problems.
- b. Are children securities in old age? This is not always true.
- c. Too many children is a burden for the family.
- d. More dependent family members means less per capita income for the family.

6.1.4 Flip Charts:

Flip Charts are sets of series of charts which may be prepared on several interrelated themes of population education intended to be presented to the audience one after the other. Such charts may be prepared to show the following;

- a) Different stages of planning for a happy family.
- b) Developmental stages of child.
- c) Series of population related events ultimately leading to a logical end.

As for the use of motivational materials, it may be mentioned here that they are primarily concerned with preparing the target people for the forth-coming programme. They are supposed to arouse in people an urge to attend to what would follow. In this way, the motivational materials prepare the necessary ground for the materials carrying the messages intended to be delivered to the people.

6.2 *Instructional Materials*

As the word “Instructional” indicates, the instructional materials may be described as that type of materials which may be designed to convey the actual messages in population education. They are intended to bring the behavioural changes in the target people in respect of knowledge, attitude and practice etc. etc. Hence, the development of instructional materials is always based on the already identified objectives of the programme. The major forms in which we may produce the instructional materials may be mention as under:

6.2.1 Leaflets:

As it is clear from the word “Leaflets” they are loose papers each one of them having some picture or printed message on population, independent from the other. We may prepare a variety of leaflets covering topics like the following for delivering through non-formal techniques:

- a. Breast feeding
- b. Late marriage of children
- c. Seeking employment before seeking the “Better half”
- d. Spacing children
- e. Planning family for happy life

6.2.2 Booklets:

Booklets may be defined as mini books developed on different themes giving pictures with brief descriptions thereof so as to deliver the population education messages to the target through visual impact. Booklets may be prepared on topics like the following:

- a. Key to a good family budget
- b. Advantages of late marriage
- c. Secrets of happy family life
- d. How to prepare balanced diet for the family

6.2.3 Pamphlets:

Pamphlets are extremely small booklets. They may be prepared and successfully used for conveying population related messages like the ones given as under:

- a. Grow more food for your family
- b. Management of poultry for additional income
- c. Taking care of diarrhoeal diseases in children

6.3 *Follow-up Materials*

By follow-up materials we mean those materials which may be used for reinforcing what the target people are supposed to have learnt through non-formal population education programme. Their major objective is to ensure that the behavioural changes brought in the target people sustain, continue and perpetuate even during the post programme period. The follow-up materials may be produced in different forms depending upon the level of achievement of the target group. Consequently, the follow up materials will be of at least one step higher level, than where the target group stands at least one step higher level, than where the target group stands at the end of the implementation of the population education related activities. As for the different forms of the follow-up materials, they would definitely be of relatively advanced stage as compared to the ones mentioned in the foregoing paras. The follow-up materials would also contain higher level messages and higher order activities and learning experiences so that the target group internalizes the behavioural patterns learnt with the help of instructional materials in population education.

ACTIVITY

Get hold of the different types of materials developed by different agencies offering non-formal programmes in population education and analyze their suitability with reference to the messages they contain.

7. PROBLEMS IN POPULATION EDUCATION AND SUGGESTIONS FOR IMPROVEMENT

Our discussion on various aspects of non-formal population education reveals that we cannot overemphasize the importance of this emerging and innovative discipline for promoting the cause of general socio-economic uplift in the developing countries of the world in general and those in this region in particular. Dovetailing the population related concepts/themes through non formal strategies has proved to be an effective way of approaching the maximum number of people in relatively short span of time in a more cost effective manner. Several non governmental organizations, agencies and institutions in all the developed and developing countries of this region are offering a wide variety of non-formal population education programmes for quite a wide spectrum of clientele. Most, if not all, of these agencies and institutions are certainly confronting numerous problems in planning, designing and carrying out their population related activities. The list of such problems could be very long, but some of them may be enumerated as under:

- i) Extreme shortage of funds
- ii) Lack of effective liaison and coordination among their activities.
- iii) Extremely low motivation level among the workers of the organizations.
- iv) Lack of adequate research facilities for collecting bench-mark data before designing and launching programmes.
- v) Relatively out-dated techniques of instruction
- vi) Low motivation level among the target people
- vii) Lack of research in instructional technology suiting to the non-formal techniques.
- viii) Absence of built-in mechanism to ensure the sustainability of non-formal instructional activities.

After referring to some of the major problems faced in the context of non-formal population education, it appears quite pertinent to offer some workable suggestions to facilitate the functioning of the agencies and institutions. Some of the suggestions may be made as under:

- i) Agencies conducting Non-formal population may be given autonomy to identify/ generate more sources so as to enable them carry out their functions effectively.
- ii) One central body/Division of Ministry may be assigned the role of coordinating the higher to sporadic efforts of different agencies in

non-formal population activities.

- iii) Detailed systematic surveys may be undertaken in order to assess the multifarious needs, interests, issues and problems, aptitudes, socio-cultural values and behaviour patterns and the existing resources in the target areas so as to make viable plan of non-formal population education.
- iv) Short term orientation course may be arranged for the curriculum planners, developers of materials, artists, editors and others concerned in communication techniques in order to make the non-formal population education programmes really effective and meaningful.
- v) Different materials developed for the clientele may be pre-tested/ tried out and amended in the light of feedback before the full scale launching of the programme.
- vi) Institutionalized system may be developed for ensuring a close collaboration amongst the experts from different fields especially from population, education, agriculture, health, media, economics, rural development and other allied sectors so as to provide a broad base to the population education programme for making it acceptable to the clientele.
- vii) Appropriate motivational and instructional material may be developed, pre-tested/tried out and modified in the results of feedback before using it at large scale for the clientele.
- viii) Appropriate motivational as well as instructional materials may be prepared in more than one forms so as to effectively attack the relatively large spectrum of population related problems faced by the clientele at large.
- ix) An in-built system of feedback may be provided in the programme so as to ensure the instant availability of the relevant information/ data for affecting necessary changes/modifications in the programme objectives, contents, instructional methodology, evaluation system or any other strategy pertaining to the implementation of the programme.
- x) A close collaboration may be ensured amongst the different agencies and institutions offering non-formal population education programmes through holding periodic coordination meetings for exchange of materials, sharing of experiences and discussing the different issues and problems faced by them in the field.
- xi) Relevant materials may be disseminated after regular intervals

amongst its potential users. This would also help in establishing a close liaison with the clientele.

- xii) Developing countries of the Asian region may make use of the experiences of countries like the Philippines and China etc. In formulation as well as execution of non-formal population education programmes. Necessary modifications/ changes may, however, be made in the strategy suiting to the local conditions.
- xiii) Agencies undertaking non-formal education programmes may be encouraged to undertake extensive research activities in the field in order to have scientific basis for any such further activities in this emerging area.

8. SUMMARY

We are happy that you have read this unit on non-formal population education with great interest. Now let us hurriedly try to recall what we have so far learnt in it. The major contents of this unit may be, in nut shell be described as under:

The concept of population education is relatively new and is still in the process of definition and redefinition. It is basically a human welfare programme designed to enable the target people understand critically the population issues and problems confronting at the moment and then, in the light of past experiences, plan for adopting some other viable approaches to improve the situation.

The most comprehensive definition of Population Education was developed in the UNESCO Regional Workshop in Population and Family Planning Education held in Bangkok in September/October, 1970. This definition reads as follow:

“Population Education is an educational programme which provides for a study of the population situation in the family, community, nation and world with the purpose of developing in the students rational and responsible attitudes and behaviour toward that situation.”

As can be gathered from the above definition, Population Education emphasizes the welfare concept of human beings through adopting a reasonable policy of population change which should ultimately lead towards the prosperity of the people at large.

The next concept which we have discussed is that of non-formal education. In view of the rapidly growing population in the Asian region in particular, the educational planners have come to identify some newer non conventional strategies for approaching the hitherto conventional

strategies for approaching the higher to neglected masses by making use of a variety of materials supported by varying input of media. All these instructional material may be put under the rubric of non-formal education.

In order to reach the masses for popularizing the population education concepts through non-formal techniques, we have to integrate the former with the later one. This integration is not out of choice; it is rather out of compulsion because of the distressing fact that we cannot afford to reach every body in every corner of the Region through formal contact strategies. So the factors of time and cost both necessitate the integration of population education concepts with non-formal education strategies in order to reach the maximum number of people in the shortest possible period of time.

Then in this unit you have studied the different stages of the process of integrating population education with non-formal education strategies. These stages may be just enumerated as under;

- i) Situational Analysis: It may be referred to as a detailed exploratory survey for collecting relevant information in respect of
 - a) The Teacher/Instructor,
 - b) The target clientele, and
 - c) The psycho-social climate
- ii) Formulation of programme objectives: In the light of the results of situational analysis, the planners of non-formal population education programme formulate the objectives to be achieved through the exercises. In other words, they specifically mention the behavioural changes to be brought into the knowledge, attitude and practices of the target people.
- iii) Preparation of the Work Plan: A detailed plan of action is prepared in the light of pre-determined objectives of the programme. In other words, this stage represents the preparation of operational plan delineating the different activities which would be undertaken for implementing the programme.
- iv) Implementing the Work Plan: This stage consists of substantial steps taken to accomplish the different types of activities for achieving the programme objectives.
- v) Evaluation: By evaluation we mean an activity designed to assess the overall impact of the programme. Put differently, at this stage, we ascertain as to what extent have the programme objectives been

achieved. This activity may also hint at the major hindrances, if any, that have impeded the achievement of programme objectives.

- vi) Redesigning the Population Education Programme: In the light of feedback received through evaluation, the agency may redesign the programme of non-formal population for implementation in the same or different settings.

The next-major thing you studied related to the approaches to the integration-of population education with non-formal education strategies. In this context, you may recall that we discussed the following approaches: (i) Separate Unit Approach, (ii) Infusion Approach, and (iii) Core Learning Kit Approach. It may be clarified that each of these approaches has got its own minus and plus points with reference to the level of development of the target group.

We have also discussed the major content areas which may be included in a non-formal programme in population education. The major proposed content areas include the following ones:

- a) Demography
- b) Quality of Life
- c) Health and Sanitation
- d) Socio-economic Development
- e) Population and Environment
- f) Population Education and Socio-cultural Values

Our discussion on major content areas is followed by the need and importance of integrating health education with population education programme through non-formal education strategies.

The next section of the unit deals with our discussion on different types of materials that may be developed and used for communicating population related messages in non-formal settings. The major types of materials we discussed were as under:

- a) Motivational Materials
- b) Instructional Materials
- c) Follow-up Materials

Towards the end of this unit we have put forth certain suggestions for promoting the cause of population education through non-formal techniques.

SELF ASSESSMENT QUESTIONS

EXERCISE NO-II

- i) Identify and discuss the different approaches relating to the integration of population education in non-formal education strategy keeping in view the level of literacy and the general level of socio-economic development in your area.
- ii) What major content areas of population would you suggest for the out-of-school population belonging to the following categories lining in your vicinity:
- a) House wives
 - b) Farmers
 - c) Out-of-jobs youths
- iii) What are the different types of materials that may be developed and used in non-formal population programmes. Explain their relative merits and demerits with reference to the major target groups of non-formal population education in your country.
- iv) Critically go through the following statements and tick (✓) against TRUE or FALSE, as the case may be:
- a) The Separate Unit Approach is the most appropriate approach for integrating population education concepts for a developed country like Korea. TRUE/ FALSE
 - b) In Infusion approach, different types of messages are conveyed in the form of interlinked activities designed for the learners. TRUE/ FALSE
 - c) Motivational materials are primarily designed to convey population education messages to the people. TRUE/ FALSE
 - d) Instructional materials are intended to bring behavioural changes in the target group. TRUE/ FALSE
 - e) Follow-up materials are designed in order to ensure that the target audience do not revert back to their old practices. TRUE/ FALSE
- v) Write short notes on the following:
- a) Core Learning Kit Approach
 - b) Need for integrating health education in non-formal population education.
 - c) Use of posters in population education
 - d) Need and importance of follow-up material

**INTEGRATION OF POPULATION EDUCATION
IN LITERACY AND ADULT EDUCATION**

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TABLE OF CONTENTS

	Page
Introduction	192
Objective of the Unit	192
1. Concepts Clarification	193
2. Development Programmes and Adult Education	195
3. Components of Adult Education	197
4. Population Education	199
5. Process of Integration	205
6. Answers to Self Assessment Questions	212

INTRODUCTION

Population Education is a new development in the field of education and relates to the impact of demographic changes on the socio-economic life of the people. Population Education programmes are offered to sensitise the people about the expected adverse changes coming in the wake of rapid population growth.

As in the South Eastern countries, with lot of socio-cultural constraints on patterns of sex behaviour, people dislike to talk about such a personal issue; therefore, effort is always made to integrate these concepts, in one way or the other in other content areas. This unit deals with the methods of integration and the process to be used for integrating the population education concepts in adult education and literacy programmes.

OBJECTIVES

After going through this unit, you are expected to be able to:

1. Describe the nature of adult education and literacy programmes.
2. Explain different components of adult education.
3. Describe the nature of population education.
4. Know different approaches of integration and use them effectively when desired.

1. CONCEPTS CLARIFICATION

Rapid population growth in the third world countries is the major threat to their economy. With very meagre resources at their disposal, whatever the speed may be developed it cannot keep pace with the alarming speed of population expansion. If it continues, the dream of economic independence will not come true.

An analysis of this situation reveals that poverty and overwhelming illiteracy of the population gave birth to accelerated population growth, which now is resulting in depressed economy and a host of social and environmental problems. The vicious circle which emanates from the poverty of the masses ends in an intending series of calamities for the nation as well as for the family.

To overcome the problem, different nations adopted different strategies. Many developing countries, on the pattern of advanced nations, launched community development and rural development programmes.

1.1 Community Development:

It is a process of undertaking measures to broaden the outlook of the community people and to prepare them both socially and economically to live better lives. The term community development is usually applied for non-agricultural groups of people living in the same vicinity. The programme usually involves literacy, functional education, social education, cleanliness, health education with practical developmental works as learning skills, washing and cleaning water stores, spraying houses etc.

1.2 Rural Development:

When the same process is applied in rural areas with predominantly agriculture base, it is called rural development. According to some writers it is the process of over all transformation of rural sector of an economy. A wide variety of strategies have been proposed and used for this purpose. But adult education and literacy always remain the common feature. There is also skill training for better income. In rural development programmes emphasize has always been laid on better agriculture.

1.3 Points to Recall

1. Emphasis of community development programmes has been on better social and economic lives of the masses.
2. In rural development programmes, too, objective was economic and social well-being of the people.

3. In community development programmes, the tool was skill training and education of the people.
4. In rural development programmes, there was more emphasis on agricultural development than skill training.
5. The common objective of the both programmes was enhancing the purchasing power of the people which ensures better utilization of available resources and better living pattern.

1.4 *Self Assessment Exercise*

1. Define the following terms:
 - a) Vicious circle
 - b) Community development
 - c) Rural development
 - d) Purchasing power.
2. Differentiate between community development and rural development.
3. What is the main cause of poverty of masses in developing and less developed countries (LDC's).

1.5 *Activity*

You have first read some explanation of two concepts i.e. community development and rural development. Visit some library and consult some encyclopedia and see how it defines the both terms?

2. DEVELOPMENT PROGRAMMES AND ADULT EDUCATION

All development programmes envisage acceleration of economic technological and social change through a planned effort. It is evident all such efforts concentrate on the adult population of the community. This segment of the community forms the core of manpower for carrying out the transformational activities both mentally and physically. Any opposition by this group of people often results in failure of the programme. To prevent any such risk developmental schemes are launched with a motivational campaign and educational activities. No doubt a lot of spade work is accomplished by the political leadership of the area, but true inclination of the adult group proves more helpful in taking off the planned effort.

Motivational and educational programmes are built around the needs of this group. Generally, in developing countries where poverty surrounds the whole canvas, better future prospects appear to be more attractive for the unemployed youth anxious to become an earning hand and thus respected member of the community.

2.1 Nature of Adult Education Programmes

Adult education programmes were first introduced in the United States of America with the name of Adult Basic Education. Major objective of the activity was the eradication of illiteracy among the adult population of the country. In 1930's the movement spread in the British Colonies with the same name and objective. But later on when socio-economic variations expanded between the rural and urban sectors of economy, political leadership wanted to bridge the gap and equalize the social conditions, many programmes with the name of "Community Development" or "Rural Development" were started. As these programmes were a kind of conscious effort for the acceleration of economic, technological and social change, therefore, the curricula which previously was limited to only reading, writing and numeracy was expanded to include a lot of functional education necessary for a healthy living in any social system. Necessary and relevant to the local needs technical skills were also added.

As a big chunk of these developmental programmes are related to educational and training activities, therefore, adult education became an integral part of the programmes where ever launched.

2.2 Literacy and Illiteracy

Literacy is the ability to read and write in any language. Accordingly illiteracy is inability to read and write in any language. Although with small

variations this definition is accepted world wide with increasing volume of knowledge and expanded demands of society from the individual, knowledge of simple Arithmetic has also been included in the definition of literacy.

2.3 Nature of the Problem

Governments especially those emerging out of the wrecks of the colonial regions have seldom been conscious of the rights of common man in a society. Least attention was paid to such ameliorative activities as health, education, sanitation, water supply etc. In the Middle East, South Asia, South East Asia, Africa, Latin America and the Pacific Region, generally speaking, health, education and sanitation remained a neglected field. Due to large scale illiteracy public opinion remained dormant upto 1960's. It is only with the advent of electronic media that people at large came to know of their rights and struggled for those basic facilities. Upto this time, it is only in a few countries with better G.N.P. where elementary education is almost compulsory. Still there are many developing countries and LCD's as Pakistan, Afghanistan, Nepal, India, Bhutan, Bangladesh etc., which are behind this target. They lack resources both financial and manpower for reaching this goal. Enrollment ratios at the primary level are much below the desired target of 100 percent. That is why a big chunk of population predominantly from the rural areas never attends a school and remains ignorant. A large majority of this group is, of course, from the women folk, who, as the social tradition is, has to rear up the new generation. Therefore, a lot of work has to be done for the realization of the fact that education of a woman is more important than that of the man. When we educate a man, we educate an individual and when we educate a woman we educate the whole family. This overwhelming illiteracy of the population both male and female is responsible for the hard economic and social realities now faced by these nations and one of them is the rapid population growth.

2.4 Points of Recall

The objectives of all developmental programmes are accelerated by economic, technological and social change through a planned effort.

1. Developmental plans concentrate on the uplift of the adult group of population.
2. Motivational and educational activities form the base for the developmental programmes.
3. Adult Basic Education aimed at eradicating illiteracy among the adult population of the country.

4. In present times, adult education, rural development and community development programmes are taken up with a view to bridge the gap between the rural and urban sections of a society by equalizing socio-economic conditions.
5. The new concept of adult education is broad enough to cover both education and skill training activities.
6. Literacy is the ability to read and write in any language. At present, simple arithmetic and computation are also considered literacy skills.
7. Illiteracy is inability to read and write in any language.
8. The problem of large scale illiteracy in the third world countries emerged out of the disinterest of the governments in the education of the people.

2.5 SELF ASSESSMENT QUESTIONS

1. Why are there more problems in developing countries than in the developed ones?
2. Why does a large scale illiteracy exist in the third world countries?
3. Define literacy and illiteracy.

2.6 Activities

- | |
|--|
| <ol style="list-style-type: none">1. Prepare a list of developing and less developed countries and compare their literacy rates both for male and female population and participation rates at primary level separately for boys and girls.2. Compare their expenditure on education as percent of G.N.P. and percent of national budget. |
|--|

3. COMPONENTS OF ADULT EDUCATION

Adult education is a community-based activity. Therefore, it is purely local in nature. Educational programme is developed after the assessment of the needs of prospective participants. As the needs and also solution to the problems visualized by the local population differ drastically from person to person and community to community, therefore it would be futile to look for similarities and dissimilarities in the programmes of two adjoining localities. It is possible that their occupational-needs due to location of the area and similar agricultural products may be to some extent identical, but it would not be true to apply the same learning package in the two villages. Instead, we can draw broad areas which comprise an educational programme for adults. In general, major components of adult education programme are:

1. Literacy: Reading, writing and Arithmetic.
2. Functional Education: Education necessary for the daily life activities such as better farming, plantation, use of fertilizers, animal breeding, agriculture marketing, cooperatives, etc.
3. Health Education: Necessary conditions for hygienic living, family health and hygienic, cleanliness, common diseases, primary treatment of common diseases.
4. Child rearing practices.
5. Food and Nutrition.
6. Skill Training.

But vast variations have been observed in micro details of these components. We take, for example, "plantation" as a subject of the programme. Before preparing material on this subject, the following questions are to be answered:-

- What is meant by plantation?
- What kind of plantation is necessary for that particular region?
- Do the community require some specific plants for food/health needs?
- Does the region grow such plants which produce some exportable material?
- What is the basic criteria of plantation, cash or food?
- Is the soil and climatic conditions of that particular community suitable for the chosen plants etc.

Remember that adult education, in the context of this unit and in the overall perspective of developing countries, is the education of adult people, above 12 years age, and that the level of their education is generally basic. These are the people who due to different reasons could not join a formal school or left it without completing basic education.

Reasons for not joining a formal school or leaving it without completing it will be discussed in the section on “Adult Education”.

3.1 *Points of Recall:*

- In general, programme of adult education includes literacy skills, functional education, health education child rearing practices, food and nutrition and skill training.
- Functional education is a broad area covering all such topics which are needed to both male and female adults for living a healthy life.
- Before deciding about the content of any topic several questions are to be answered.
- Adult education is the education of the people who are above 12 years age and who missed the schooling opportunity or left education without completing it.
- Level of education of this group is usually basic.

3.2 *Self-Assessment Questions*

1. What are in general the components of any adult education programme?
2. What kind of questions need to be answered for deciding the content of any functional education topic?
3. Who are, generally, the adult learners?

3.3 *Activity*

Visit any adult education centre and see the components of the programme, separately for males and females. Propose changes, addition or deletion in the light of the area being served.

4. POPULATION EDUCATION CONCEPTS

It is comparatively a new field, having its beginning in the mid sixties with Sloan Wayland's work under the Population Concepts. The objective of this emerging field is to acquaint people with concepts of population education and to educate them about the consequent imbalances created by the rapid population growth. The effects can be witnessed both inside the family, and outside in society. Inside the family, the needs of food, clothing, sanitation, housing and education are the examples. Expanded family needs effect the whole equilibrium of a social system. We may enumerate expanded urbanization and disuse of cultivated soil for the construction of houses, markets and roads, new school buildings, new roads to absorb the heavy transport of goods, and passengers, extended water supply programmes thus diversion of irrigation water resources to drinking water, establishment of new food, textile and other relevant industries or extended import of food and clothing items. Alongwith these economic problems, there are social ailments which emerge with large urban-slums created by unplanned migration of surplus agricultural labour force to cities and industrial centres. A large number of social problems stem from unemployment and poverty which are also the fruit of over population. This list is not exhaustive. There are many other problems which also need to be understood by the people at large.

4.1 Integration of Population Education Concepts

Many social problems including unplanned population growth cannot be controlled just by passing orders. They need proper education of the people regarding their effects on the family welfare and society. Only by continuous education, generation after generation can be convinced of the alarming situation restating from rapid population growth.

4.2 Two Approaches:

There are always two ways of conveying a message i.e. direct and indirect. In direct way, the message is conveyed in clear terms without beating about the bush. But in indirect approach, the message is concealed in words. Writers adopt various methods for being indirect. Sometimes it takes the form of a piece of prose and sometimes of a poem. It can be a short story, a novel, an essay, a ballad, a lyric and a sonnet etc.

In population education programmes, especially while dealing with the adult population we have to avoid the sermonic way of preaching. At the adult age, the people have fixed notions therefore, it is difficult to change their ideas, values and attitudes, they have developed with the passage of time and experience. Studies by Strong and Davis show that children's interest, change

more often than the interests of adults. (Dr. Jane C. Zahn “differences Between Adults and Youth Affecting Learning” in *Adult Education*, Vol XVII, No. 2 pp. 67-77 winter, 1967). Therefore, it is difficult to teach and create new interests among the adult people. The only way out is that of the indirect approach which may shake away their old fixed notions and help them in creating new interests.

In the coming pages, where we are going to suggest means and ways of integrating the population education concepts in the adult education programmes, we shall have to keep in mind the nature of the clientele we are faced with.

4.3 *Integration Approaches:*

In the above pages we identified content areas for adult education and population education programmes. As evident, population education cannot be of much interest as to attract people for coming to the centres and devoting time. In contrast, adult education and literacy programmes, being the centre of developmental activity, seem to have a large scope to attract them. Therefore, feasible way of conveying messages of population education is that these may be integrated with the content of adult education and literacy materials.

As both integration approaches i.e. unit approach and infusion approach have already been discussed in earlier pages, the following pages will deal only with practical examples of the both approaches:-

Examples of Infusion Approach:

Literacy Material Population education message to beginners can be conveyed when they have developed the ability to read. Messages will be integrated gradually with the ascending reading ability of the learners. In the very beginning one or two sentences will be sufficient. But as they progress, the number of sentences will increase accordingly.

Examples of sentences for infusion (for beginners)

1. Kamal is a poor farmer.
He works at his farm from morning to evening.
He works very hard but he does not grow enough to feed his children.
He has a large family.
He has ten children.
His children are very young.
They cannot help him at his farm.
(It should be supported with pictures)

2. Sakeena is ill today.
She is often unwell.
She has eight children.
She has to do a lot of work.
Her children are not healthy.
They do not get proper food.
Sakeena too does not get good food.
(It should be supported with pictures)
3. Ali is a farmer.
He has a good piece of land.
He has a lot of fruit trees.
He also has good shady trees.
He is facing some problem.
He has a family of ten.
He does not grow enough for them.
He will cut down some trees.
He wants to sell them.
He wants to cultivate more land for food.
(It should be supported with pictures)

Examples (For second level learners)

When they have developed the ability to read a little complex and continuous passages the infusion material will, accordingly, consist of passages containing any one theme of the population education messages. Some examples are given below: -

Example-1

Asad was a handsome young man. He was hard working. And earned a lot by working day and night. He got married with a young girl of sixteen. He and his parents were very happy when he had the first child. He was even more happy before the end of next year he had another child. His wife had to look after and feed two very small children at a time. With the birth of the second child she could not feed her first baby by breast. They arranged cow milk to feed that baby. But it did not suit the infant. He became ill. In the mean time his mother had another pregnancy. Now Asad had to pay more attention to his family problems than to his work.

On the one hand, his income started squeezing and on the other hand he had to make a lot of expenditure for the sick child and his mother. Now he also had to see the second small child who was not being looked after by the mother.

Example-2

Alipur was a small village situated on the road leading to Karachi. Usually the drivers running long distances stopped there for food and tea. Seeing the thriving business of the few shops some other people came and opened tea shops and food stores. After a few months they brought their families to that village for permanent settlement. It was not more than five years when the road side developed into a congested market. Due to the rush of people, there were often accidents. A stage came when the authorities constructed a by-pass for the smooth flow of traffic.

Example-3

Rabia was a village's girl. Some of her relatives were living in the city. Whenever she went to the city, she visited her relatives. She saw that women in the family did not feed their children by breast. When she got married and had children she also did not like to feed the infants by breast. It was not more than three years to her marriage that she had three children. She was much worried and always talked to her friends. Salma, one of her friends had been to school for five years. She had some knowledge about breast feeding. She advised her to feed her babies by breast. At first she was not convinced. But just to see the truth she started feeding the third baby by breast. It gave her a sort of satisfaction. The baby also felt happy and often smiled. She was happy too, because she averted pregnancy that year.

4.4 Unit Approach

In this approach a complete unit related to some specific aspect of population education is adjusted in the study material of any other subject. This adjustment is made in such a way that the new unit does not seem something alien to the host subject. Let us take the example of the subject of Social Studies. We want to add one unit on population education. If we add the unit without much meditation and put the unit somewhere in the history section it would look odd and people may consider it an international effort of the government to teach the people about population education and that, too, without some reference point.

If we add the same unit in the section on Geography and put it after a section on "Financial Resources" we can describe the imbalances in income and expenditure of the country due to rapid population growth. Similar units can be

added while writing on “Employment Opportunities”, Pollution, “Social Problems” “Housing” “Agricultural Production” Forestry etc. The unit added will pick up the problem of population expansion as relevant to the preceding topic.

4.5 *Infusion Approach*

In this approach the concepts of population education are infused in the general stream of knowledge of the specific subject as and where relevant.

4.6 *Points to Recall*

Population Education:

It is an educational programme for making people aware of the process of population changes and their consequent effects on the socio-economic life of the people and the environment.

Integration

Integration means to bring, some body into a group from outside it. While integrating the concepts of population education with other subjects, we infuse the concepts of this subject into others and make them a part of those subjects.

Integration approaches

We usually use two approaches i.e. the “unit approach” and the “infusion approach”.

In unit approach, a separate unit is added in such a way that it does not seem to be something alien to the topic under discussion.

In infusion approach we infuse the concepts of population education into the content of other subjects and adjust them in such a way that they seem to be a part of that subject.

4.7 *SELF-ASSESSMENT QUESTIONS-*

1. What are the functions of adult education programme?
2. Why do we need to integrate the concepts of population education into the content area of other subjects?

Activities:

Integrate the population education concepts into the following in a brief, way:

- i) Migration
- ii) Urbanization
- iii) National Income
- iv) Nutrition

5. PROCESS OF INTEGRATION

Integration of the concepts of population education into the content area of some other subject can be done when that content either already exists or has been developed. Therefore, as planners of population education programmes for the adult learners we first need to develop the package which is to be delivered to them. As the purpose of this unit is not to plan and develop that package but to explain the process of integration of population education concepts into that package we therefore, shall discuss the steps involved for developing that package very briefly and concentrate on the theme of this unit.

As already explained adult education programmes are local in nature and these are developed keeping in view the specific needs of that particular group of adults.

5.1 *Identification of the Target Group*

Usually, for government and non-government organizations it is not possible to launch developmental plans for the whole country at simultaneously. Therefore, priorities are established and usually the preference is given to people living in remote rural areas, without any facility of the modern world, living purely on nature's endowment. There may be many such groups living in distant areas of a country. Therefore, for project purposes a specific group (area) is identified.

5.2 *Analysis of the Situation*

Identification of a group enables us to concentrate our attention on the project activities. For better knowledge of the group and their educational and training needs, we start by analysing the situation which includes the survey of physical conditions of the area, soil, agricultural project, if any, and other raw materials, which could be used for some kind of technical and vocational training.

Most of this information may be obtained by visiting the site itself and talking to the local leadership, workers and the common man. If there is any government office, it may provide information regarding culture, religion, habits and common diseases. There may be some literature available about the life in that particular community. It may reveal several hidden things about them.

Although much of the information is obtained by indirect means of literature and the leadership of the area, but to identify the felt needs of adults, we should not depend on the secondary sources. We should arrange, either to interview all adult population of the area or, if possible, to get the question series filled up by direct talking to them.

Some needs may be expressed by the adults, and so far as possible, these may be assigned priority. Some issues given by local leadership might be of much importance. And a training programme adapted to these issues may arouse a lot of interest and enthusiasm. But more important are the goals and objectives of the programme for which investment is being made. In our case, major area of interest would be the insertion of population education concepts in all study materials.

A systematic way of reaching the necessary information is as under:

5.3 *Analysis and interpretation of data*

Tabulation of information sought through the questionnaire will help us to know the needs of the most of the people which can be assigned priority in the programme. It will also help in preparing the profile of the community people which can serve as a reference point in later decisions.

(ii) Formulation of Programme Objectives

In the light of information provided by the data, some new objectives could be added to the programme objectives already delineated by the sponsoring agency.

iii) Determining the Content of the Programme

Analysis of the data helps in identifying the main content areas to be included in the scheme of study for adults.

Generally, in South East Asian Countries the following form the curricula for adult education centres:

1. Literacy

2. Functional education (type of functional education will depend on the expressed needs of the people).
3. Health education
4. Child welfare and mother care
5. Civic education
6. Resource utilization

iv) Content area of population education to be integrated

In some countries it may be possible to ask questions about the existing behaviour of parents regarding population practices. But in many communities, it may be regarded an interference into the personal life of the people. Students are advised not to be so enthusiastic as to ask questions, like these ones:

1. Do you practice family planning?
2. What kind of devices do you use for this purpose?

Although most of the UNESCO material includes such questions but as teachers and educational planners we need to avoid indulging in such discussions and should concentrate on what to teach, and how to teach?

The following areas are identified as the main thrust of the population education programmes:

I. Family Size

- A. Effects of family size on:
 1. Production and supply of food
 2. Nutrition of family members
 3. Mother and child health
 4. Ability of parents to provide health and medical care for their children.
 5. Ability of parents to provide attention and guidance for their children.
 6. Ability of parents to provide leisure time activities for the family members.
 7. Ability of parents to provide education for their children.
 8. Family savings

II. Population Structure

- A. Population situation of the villages highlighting population size, age-sex structure, birth and death rates.
- B. Effects of population size and growth on:
 - 1. Provision of adequate safe drinking water for the community.
 - 2. Environmental sanitation
 - 3. Spread of communicable diseases
 - 4. Employment opportunities for the village labour force.
 - 5. Health services, facilities and supplies.
 - 6. Infrastructure such as roads, school buildings, bridges, irrigation, ditches etc.
 - 7. Transportation facilities and other social services
 - 8. Status of women
- C. Effects of young age structure on community services such as education, health and recreational facilities.

III. Migration

- A. Migration situation in the villages which may include migrants characteristics such as age, sex, education, occupation etc.
- B. Causes of migration to towns and cities
- C. Effects of out migration on the place of origin.
- D. Measures to remedy the unfavourable effects of out migration on the village

IV. Family Planning

- A. Family planning methods.
- B. Counteracting rumours on side effects of family planning methods.
- C. Available family planning services and facilities in the village or nearby places
- D. Available reading materials on family planning and their sources.

In addition to these areas it has been suggested that the out of school youth and adults may be provided education regarding the following issues.

I. Basic concepts of population dynamics

- A. Births
- B. Deaths
- C. Migration

II. Factors contributing to large family size

- A. Early marriage
- B. Sex preference
- C. Other pronatalist values

Although the above proposed content is very comprehensive and covers almost all aspects of the social life of a village or rural community, we need to remember that adult education and literacy programmes are not confined to rural community. People living in congested urban centres also need literacy and functional education classes. Population expansion affects their (urban people) socio-economic life in another way. Therefore, workers are requested not to curtail their content to include the above topics only. Some issues will definitely differ from community to community. Therefore the selection of content areas, both of literacy and adult education and that of the population education, may be made in the light of the survey of the needs of the people and their socio-economic conditions.

Some other population education areas, which may attract the attention of the clientele are the effects of population growth on.

- a) Housing
- b) Environment with special reference to pollution
- c) Industries and industrial labour force
- d) Social Problems
- e) Fuel needs and forests
- f) Land distribution and surplus agriculture labour force.

There is no doubt that topics under “IV-Family Planning” above are a part of population education programme, but, as explained earlier, due to cultural variations and social constraints these topics should not be included in the curriculum of out of school youth and adults. Topics like these are usually covered by the population/family planning/health workers. Because they are in better position to talk on issues like these and advise them about the ways of controlling population by the way of using family planning devices.

- g) How to control population?
1. Birth control
 2. Spacing
 3. Breast feeding
 4. Late marriages
 5. Female education
 6. Recreational facilities
 7. Economic well being

5.6 *Adult Education Programme*

Adult education is a very vast area of study; therefore, the material to be integrated can be of different interests and varieties. As said earlier, adult education programmes launched for the development of certain community usually cover areas of functional education, health education, civic education etc. Therefore, some examples of material for integration into the above areas are presented below:-

Example-1: In a lesson on sanitation

As you see there has been no cleaning of drains throughout the year. Now the village seems to be surrounded by the ponds of dirty water. There is every where a bad smell of stagnant water continuously polluting the air we breathe.

Perhaps that is the reason that there has been comparatively more cases of typhoid, diarrhoea and cholera this year. There was less water coming out of the houses and less problem of draining it out of the village. During this period a lot of people have shifted to the village because of road side business attractions. Expansion of the village has been very irregular and now we are facing a lot of new problems.

Example-2

As you remember about fifteen years back there was shortage of labour force both for industry and agriculture. Available people demanded sufficiently high wages. But as the time passed slowly a change was witnessed first in the agriculture sector. Large pieces of land were divided into smaller ones, and people preferred to cultivate their land by themselves. As the land left was very small therefore no extra labour was required. In some families, the piece was too small to absorb the adult members of the family, migrated to the industrial centres for seeking employment. But as the population, grew more rapidly it did not take

much time in all sectors of economy to reach the saturation point.

5.7 *Points to Recall*

- Integration of population education concepts into some other subject area can be made when the material of that subject already exists.
- For adult education programmes the study material is developed after analysing the situation where the adults live.
- Usually this information is obtained by conducting a need assessment survey, talking to the local opinion leaders, officers, and other agencies already engaged in some development programmes.
- In the light of the findings, main topics (content area) are identified.
- Topics are developed into detailed content.
- Population education concepts are integrated into this content.

5.8 *SELF-ASSESSMENT QUESTIONS*

1. Why do we need to integrate population education concepts into learning material of adult education and literacy programme?
2. How do we come to know of the needs of adult learners?
3. What are generally the major areas of interest for adults?

5.9 *Activity*

Prepare integrated material for adult learners depicting the following themes of population education:

1. Deforestation
2. Pollution
3. Employment
4. Malnutrition

6. ANSWERS TO SELF ASSESSMENT QUESTIONS

As all the self-assessment questions are subjective type, therefore for answers please study the same section of the unit again.

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**POPULATION EDUCATION
AND
WOMEN EDUCATION**

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TABLE OF CONTENTS

	Introduction	216
	Objectives of the Unit	216
1.	Status of Women	217
1.1	Legislation	217
1.2	Literacy and Education	217
1.3	Employment	218
1.4	Access to Higher Position in the Profession	220
1.5	Role of Women	221
	1.5.1 Conjugal Role	221
	1.5.2 Domestic Role	221
	1.5.3 Kin & Community V/S Individual Role	222
1.6	A Glance at the Status of Asia Women	222
1.7	S. A. Questions Set-1	223
2.	Factors Affecting Fertility and Related Issues	223
2.1	Education and Fertility	223
2.2	Employment and Fertility	224
2.3	Family Size	224
2.4	Health Problems	225
2.5	Fertility and Related Issues Salient Points	225
2.6	S. A. Questions Set-2	226
3.	Women's Programmes Other than Formal Education	226
4.	Population Education & Women Education	227
4.1	Methods for Integrating the Concepts	227
4.2	Concept of Population Education Relevant to Women Programmes	228
	4.2.1 General/Common Concepts	228
	4.2.2 Home Economics	230
	4.2.3 Health, Nutrition & Child Care	230
4.3	Principles Underlying Population Education Progress	233
4.4	Methods & Techniques of Delivery	234
4.5	Population Education for Women: Summary	235
4.6	S. A. Questions: Set-3	235
5.	Suggested Activities	236
6.	Overall S. A. Questions	236
7.	Bibliography	237

INTRODUCTION

There is no controversy in that the success of any population education programme depends upon the equal participation of women. This appears to be the reason that a separate unit entitled describe the profile of Asian women as related to their status and various roles performed by them in the society. The knowledge of such characteristics of women help the planners in identifying and structuring the most suitable programmes for them. As a matter of fact, no programme can be conceived without knowing the target population. Factors related to the fertility rate also help in understanding the women of various employment status and educational levels with special reference to the need for a population education programme. These factors and characteristics including the concepts of population education most relevant to women, modes of incorporating such concepts in the existing women programmes of varied nature and the delivery methods to be used with women population, are the major concerns of this unit.

OBJECTIVES

It is expected that after going through the unit you will be able to:

1. Understand the states of women in Asian countries with reference to; legislation, education, employment roles performed by women i.e. conjugal, domestic, kin and individual;
2. Understand the effect of education and employment on fertility;
3. Describe the need of population education for women with reference to: (a) target family size of family planning campaigns, ideal family size as perceived by women and actual family size and (b) health problems faced by women;
4. Identify different types of women education programmes where concepts of population education can be incorporated;
5. Identify the approaches for incorporating population education programmes into women programmes.
6. Identify the concepts of population education most suitable to women programmes;
7. Understand the basic principles which should run through all population education programmes for women, and
8. Describe the methods and techniques to be used for imparting female population education concepts.

1. STATUS OF WOMEN

The term status is used to denote the legislation provided for the equitable treatment of women; their access to resources such as education, gainful employment, health services; and the prestige, authority and power that a woman has in the society. Authority usually means the right to control the use of joint resources and the lives of others and the power is defined as the ability to influence decisions made by those with authority. The roles that a woman performs are attributed to her status. The various roles that a woman can play are parental, occupational, conjugal, domestic, kin and individual.

1.1 Legislation

Protective legislation for women has been enacted in most South Asian Countries to protect women from the effects of disruption of her family and from exploitation of her labour.

The legislations are generally with reference to the payment, amount of dowery, prohibiting, child marriage, permitting remarriage of widows where this is prohibited by tradition, establishing the right to own property and land where this is not the norm and the right to equal pay for equal work. It is difficult to apply any law without social support, and social atmosphere in the region has not been generally in favour of women. Therefore, many of the laws are being violated in Asian countries and women are still deprived of many of their legislative rights.

1.2 Literacy and Education

The degree of literacy among women is important not only for the development of country, it is also important in terms of the awareness of their legal rights & for their general welfare.

Female literacy varies from country to country. Japan has the highest female literacy since long time. The enrollment of girls is in primary schools equal that of boys and the percentage of girls progressing to upper secondary schools has surpassed that of boys. But the proportion of female who complete higher education is still lower than that of males.

In Korea and Taiwan female literacy is catching up with that of men. In Malaysia female literacy is 63.7%. And literacy is equal among age group of 10-14 years, but within age group 15-24 men have slightly higher percentage of the literates and the difference among both sexes is greatest for the age 25 and above. Marked differences between literacy percentage of men and women are observed in Indonesia, India, Bangladesh and Pakistan. In Indonesia, 71% of men and 49%

of women are literate. In Bangladesh twelve out of 19 districts had female literacy rate below 13.7 percent. This percentage was 30 for men. The literacy percentage was lowest for rural women i.e. 10.9 percent. At primary level, female enrollment constituted only 32 percent of the total enrollment. In India (1981) the percentage of literate men and women was 46.9% and 24.8%, respectively. The percentage of male and female literacy in Pakistan (1981) was 40% and 19%, respectively.

Literacy rate-Male/Female in South Asian Countries

Country	Male Literacy	Female Literacy
KOREA TAIWAN	FEMALE LITERACY IS CATCHING UP WITH THAT OF MEN	
MALAYSIA	100%	63.7%
INDONESIA	71 %	49%
BANGLADESH	30%	137.%
INDIA	46.9%	24.8%
PAKISTAN	40%	19%

In some areas of Pakistan literacy is extremely low, i.e. in rural Balochistan, it is less than 2 percent.

1.3 Employment

Women in Asia are employed in agriculture. The employment in agriculture is, however, decreasing as the modern economy expands. Where traditions prevent women working outside the home, care of live-stock, processing of harvested crops, and craft and similar other jobs are carried by the women. Women generally perform all house-hold jobs, in addition to employment type activities. Although a major proportion of women are employed but they are reported as non-working household members in the census reports. But the fact is that these jobs do contribute to family income. According to International Labor Organization, the women although unsalaried and often uncounted in certain national statistics and in the workforce composition, are in fact the most over employed element of society.

Throughout Asia, women make an important contribution to family income. The lower the socio economic status of family, the greater the proportion of income contributed by women. Women are, however, facing inequality in their wages. Mostly, their wages are low. In most cases, it may be in the form of unpaid labour or exchange labour at the time of planting and harvesting.

The nature and extent of women work in various countries of Asia has

some variations. For example, in Sri Lanka 70.4 percent women were engaged in agriculture and related activities, while 55 percent of the urban female workers were engaged in community, social and personal services and 14 percent were engaged in manufacturing.

In Philippines, one third of the labour force are female. Out of all Asian countries Thailand has the highest proportion of women working in the labour force i.e. 64 to 72 percent of the total women. They generally hold least skilled jobs at the lowest wages.

Burmese men and women do all types of jobs. Men may be doing household and women might be working in the fields. Thirty eight percent of the Japanese work force comprises female which is 35 percent of the total female population.

In Pakistan, only 5-10 percent of the women are reported to be working. Other farm activities, they work along the building constructions and other daily wages type jobs. But the matter of fact is that actual proportion of Pakistani women in the labour force is much higher. She spends at least five hours a day in animal caring, collecting, carrying and preparing fodder. Other major daily activities include milking, churning, cooling food and carrying it to the fields for men. During the wheat harvest women spend ten hours a day in the field. She also help in rice transplant and in sowing. In case of 'Katcha House' (mud house) women also have to generally renovate their house twice a year with mud and clay.

PERCENTAGE OF WOMEN WORKERS IN ASIAN COUNTRIES

<u>COUNTRY</u>	<u>PERCENTAGE</u>
SRI LANKA	70.4%
PHILIPPINES	1/3 of the Total Labour Force
THAILAND	65-72% (Highest Proportion)
BURMA	Equal To That Of Men
JAPAN	38%
PAKISTAN	5-10%
INDIA	14.44%
NEPAL	57.8%
BANGLADESH	4% (Lowest)

In India, according to the census of 1981, 14.44 percent of the women are in labour force. Again, like Pakistan, this figure does not include the rural women who work on the fields but are recorded as house wives.

In Nepal, 57.8 percent women participate in labour force. This proportion is the second highest in Asian countries. Women collect firewood and dry leaves in the forest for fuel and bring water to home. They spade and hoe the fields, carry manure to the land and dry it and store and mill grains. About 98 percent of the working women are employed in agriculture.

The percentage of economically active women was lowest in Bangladesh. Out of all women of age 10 years and above only 4 percent are economically active.

1.4 Access to Higher Positions in the Professions & Management.

In big cities and towns of Asia women do participate in professions. But their participation remains in those professions which are in line with their customary role. At least 83 percent of all women professionals are either midwives, nurses or teachers. Second reason of reluctance to appoint women to managerial positions is the unwillingness of males to take direction from women, because men are habitual to be in dominate positions. Another reason for women being debarred from professional fields traditionally considered men's job is the narrow range of subjects offered for female at secondary school stage.

Even in Japan where the female participation in labour force has increased considerably, women have not been able to get into executive positions and there is discrimination against women in the matters of ages and salaries. Only 1 percent of working women as compared with 7 percent of working men are in managerial positions.

In Malaysia only 3 percent of administrative and managerial workers are women. In Korea only 1.8 percent of professional and administrative positions are held by women.

The condition of women employment in high offices is almost similar throughout Asia. Women face great difficulties in promotion to higher positions. India is one exception where women ration to men is 1.7 in Indian administrative service, India foreign services and Indian political service.

FEMALE PARTICIPATION IN EXECUTIVE JOBS **SOUTH ASIAN COUNTRIES**

<u>COUNTRY</u>	<u>PERCENTAGE AS COMPARED TO MEN</u>
JAPAN	1%
MALAYSIA	3%
INDIA	1-7%
KOREA	18%

1.5 Roles of Women

In every society women have to play a number of roles such as family, domestic, economic, social and individual. But a women contribute to the determination to her status which affect fertility rate.

1.5.1 Conjugal Role/Role of Wife

Marriage is almost universal for women. It is considered one of the most important roles of women. Many working female have to withdraw from their jobs after marriage. It clearly shows that role of a wife and mother is the most important of all other roles.

In Malaysia, the minimum marriage age for boys and girls is 20 and 18, respectively, In Bangladesh, girls marry between the ages of 8 and 16 and the presence of an unmarried girls over the age of 16 is a sign of perverty.

In Pakistan, marriage age is about 18 for boys and 16 for girls specially in rural areas. But the actual average age for marriage for girls is 16.5 years. In India this age is 17.2 years.

In most parts of Asia, the marital bond is subordinate. The companionship model of marriage is not prevalent in most countries. However, with education, press and fiction, the companionship model is becoming popular.

MARRIAGE AGE FOR BOYS AND GIRLS IN ASIAN COUNTRIES

<u>COUNTRIES</u>	<u>BOYS</u>	<u>GIRLS</u>
MALAYSIA	20	18 yrs
BANGLADESH	-	8-16 yrs
PAKISTAN	18	16 yrs
INDIA	-	17.2 yrs
17.2 YRS		

1.5.2 Domestic Role

For the vast majority of Asia women who work both in rural and urban areas, the reason to go to a job is basically economic. Otherwise women prefer to stay home and look after the children. Even the highly

educated and affluent women like the house-wives only. Middle class women also take pride in being house-wives only.

1.5.3 Kin and Community Role V/S Individual Role

Asian women see themselves and are seen by others as the component of a family and, often, of an extended group related by birth and marriage. They usually exist as a member of a kin group rather than an individual.

Friendship of Asian women are generally among kin and neighbourhood. The mental horizon of women thus remains restricted. Men make friends of their own sex and that applies even more strongly to women.

The concept of individuality is still not much known. The women who are working are generally doing so for economic reason and not for intellectual or personal pursuits. Even in countries with long history of female education women are not working to achieve individuality or achieve purely personal goals. Some elites are, however, beginning to support the concept of intellectual satisfaction in work.

1.6 *A Glance at the Status of Asian Women*

1. Productive legislation has been enacted but it lacks social support, therefore, many of the laws are being violated.
2. Female literacy varies from one country to the other. However, literacy rate is better among younger groups as compared with the adult and older population.
3. Women are generally employed in the agricultural sector and they perform all household jobs in addition to their employment.
4. True statistics about proportion of employed women are not available in the census of Asian countries.
5. In big cities, women participation is mostly limited to the professions which are in line with their customary roles.
6. The proportion of women in managerial positions is very low when compared with similar proportion among men.
7. Women, at large, face discriminating in matters of wages and salaries.
8. Conjugal role is considered as the most important role of Asian women.

9. Most of the Asian women take pride in being house wives only.
10. Asian women, generally, exists as a member of a kin group rather than an individual.

1.7 S. A. Questions, Set-1

Encircle 'T' statement is true and 'F' if the statement is false.		
T	F	1. Women have equal legal rights to men.
T	F	2. Women are getting all their legal rights.
T	F	3. Literacy rate among women of age 25 and above is satisfactory.
T	F	4. Problem of illiteracy among women is most acute in Pakistan and Bangladesh.
T	F	5. Women are in fact most employed element of the society.
T	F	6. Women are mostly employed in industrial units.
T	F	7. Women have equal access to administrative and managerial positions.
T	F	8. Most of the educated working women have to quit their jobs alter marriage.
T	F	9. Asian woman is independent to make decision about family size.

2. FACTORS AFFECTING FERTILITY AND RELATED ISSUES

Although all the components of status and role affect the attitude of women toward family size and the actual fertility. But most of the researchers have concentrated on studying the effect of education and employment status on fertility and have provided evidence of relationship between education and fertility as well as employment and fertility.

2.1 Education and Fertility

Generally, the, primary level education has positive correlation with fertility in Asia. Meaning, thereby, that fertility ratio of women with primary level of education is greater than that for illiterate or uneducated women. But with middle level and higher education, the fertility ratio starts becoming inverse. For

example in Korea, fertility ratio is lowered by 7.9 percent after middle level education, 14.22 percent after secondary education and 16.29 percent after higher education. In India an inverse relation between fertility and education occurs only after matriculation. In Philippines, the decrease in fertility occurs after 7th grade. In Pakistan, the decrease in fertility with education up to 8th grade is quite insignificant, i.e. for two age groups, 25-34 and 35-39 with education up to middle level the fertility ratio was 4.5 and 6.4, respectively. The same ratio for illiterates was 4.5 and 6.6 respectively, a minor difference. But with education more than 9 years of schooling the fertility dropped to 2.9 and 4.8.

Plausible reason of no effect of primary level education on fertility is that in least literate societies education initially increases the ability to have live births probably through improved health, better nutrition, abandoning traditional patterns of a lactation and postpartum abstinence. Initially this effect seems strong enough to counteract the effects of education on the postponement of marriage. But the higher education lowers the demand for children and altering their perceived costs and benefits. Moreover, highly educated couples can communicate better and hence better knowledge and access to contraceptives.

The education of women, however, causes more decline in fertility as compared with the education of husbands. Thus, woman education has comparatively stronger and direct bearing on fertility rate.

2.2 Employment and Fertility

Women employed in Urban areas and having full time employment have lower fertility. But the women working on the farm and unpaid jobs have highest fertility rate. The unemployed women are at intermediate level regarding the fertility rate. The employment affects fertility reduction if the woman is employed in urban rather than rural areas and away from the home where she gets help for childcare and in the modern way rather than the tradition sections of society.

2.3 Family Size

In all Asian countries, the total number of children per family is more than two. The attitude of women is in favour of large families. In Bangladesh, women consider more children an insurance in old age or in case they become widows. Burmees women expressed three children as an ideal number but they take six children as normal. Most Indonesian women consider 4 children as an ideal number. Taiwanese women think about limiting the number of children after third or fourth child. In Pakistan, ideal number children expressed by women was 4 to 5. There was difference in the opinion of rural and urban women. According to the urban woman this number was 3.9 while rural women considered 4.3 as the

ideal number of children.

Actual number of children per family exceeded the ideal number in all countries. The actual number of births per woman (1987) was highest for Pakistan, i.e. 6.6 (presently it is 5.9 per woman). In Bangladesh, Bhutan and India, there was 5.8, 5.5 and 4.3 per woman births, respectively. Lowest number was observed in Sri Lanka, 2.8 births per woman.

2.4 Health Problems

The Asian women have generally insufficient awareness about their health and nutritional problems. They also have low access to health facilities. Other than common diseases of every region, women generally suffer from iron deficiency and anaemias. Maternal mortality is also high in many countries of Asian region. For example, this rate is 1.8 per 1000 in Pakistan and 3 per 1000 in Indonesia. Leading cause of maternal mortality is their poor nutritional status. In some societies feeding priority is given to senior males in the household, then women and children consume the left overs, which results in nutritional deficiencies among girls, old women and pregnant women. In addition to poor diet, if pregnant women also spend calories doing physical labour, their nutritional status can be expected to suffer raising the risk of maternal mortality.

2.5 Fertility and Relates Issues: Salient Points

1. Inverse relationship between education and fertility begins only from middle school education onwards.
2. The education of women causes more decline in fertility as compare with the education of husbands.
3. Highest fertility rate has been observed among women working on the farms and unpaid jobs followed by unemployed women and the lowest fertility among women employed full time in urban areas.
4. The actual family size in all Asian countries is higher than the ideal family size perceived by women and the target of family planning campaigns.
5. The ideal family size perceived by Asian women is much higher than target family size of family planning campaigns.
6. The actual number of births per woman was highest in Pakistan followed by Bangladesh, Bhutan and India.
7. Asian women suffers from iron deficiency and anaemias.
8. Maternal mortality is very high in Asian countries and its leading cause is poor nutrition.

2.6 Self Assessment Questions - Set 2

Please encircle "T" if the statement is true and "F" if the statement is false.

T	F	1.	The minimum educational level for decreasing fertility is primary.
T	F	2.	Women working on the farms have lowest fertility.
T	F	3.	Population education is needed to change the present concept of ideal family size.
T	F	4.	Asian women is duely aware of her health and nutritional problems.
T	F	5.	Actual family size far exceeds the, ideal family size perceived by women as well as the target family size of family planning campaigns.
T	F	6.	Leading cause of maternal mortality is low nutrition.

3. WOMEN'S PROGRAMMES OTHER THAN FORMAL EDUCATION

Population education, health education, family planning education and the related services are carried to the women by a variety of organizations through multiple activities, media and programmes. Other than government departments and ministries like health, social welfare, family planning and education, a number of NGOs are working in the field. NGOs sometimes work in isolation and sometimes they integrate programmes with government agencies and projects. Three such programmes and projects are mentioned here: (i) Rural Family Planning Programme of Allahabad, India, (ii) Shadab Integrated Rural Development Project of Pakistan and (iii) Community Education Programme of Indonesia.

Rural Family Planning Programme of Allahabad used community centre approach for the promotion of sound health practices including (a) pre and post natal care, (b) teaching mothers about child health, nutrition and home management and (c) encouraging child spacing. The techniques used were generally group meetings on specific subjects, guest speaker in an informal manner, free discussion, shows and exhibitions and printed material.

Shadab Integrated Rural Development Project of Pakistan is another example. This programme included a component of nutrition, child care and other family planning education. Family Planning Association of Pakistan, an NGO,

worked closely with the project. Similarly in Indonesia, general community education programmes were carried out. The project included mobile audio-visual units in addition to the techniques mentioned under Allahabad Project.

Other programmes for women in the region include:

1. Literacy Programmes for Women
2. Mother care/Home Care Craft Centres
3. Courses in Non-Formal and Vocational Training
4. Home Economics Activities
5. First aid, nutrition, environmental education, health, home nursing, business management, religion education and cooperatives.

4. POPULATION EDUCATION AND WOMEN EDUCATION

The idea of including the concepts of population education in the formal school education except home economics, has been discussed in the chapter on Formal System and Population Education. The same concepts and approaches can be used for formal female education as well.

4.1 Methods for Integrating the Concepts

For integrating the concepts of population education in special women's programmes, the permeation approach or infusion can be used. Under this approach, the concepts of population education are not arranged under one heading or unit rather the relationship between concepts of population education and other topics are established throughout the programme. Rational behind using this approach is:

- a) Courses and syllabi of special short programmes are not rigidly formulated. Most of the programmes are formulated or altered to meet the needs of target population. Therefore, it is easy to incorporate the concepts of population education into the programme whenever needed.
- b) The concepts of population education taught in isolating to the environment, needs and problems of the adult population become meaningless and boring. Permeation can bring more meanings to these concepts.

So far as home-economics as a formal education is concerned, separate units on population education including health education can be added to the

existing subjects. Teacher training programmes should have a separate course on population education. At teacher training level, full course concerned with population education is needed to: (a) create indepth awareness about the population growth and its consequences from individual and family to the community and world as a whole, and (b) to change their attitude toward this problem so that they can successfully and with conviction transfer the same attitude to their students in the future.

4.2 Concept of Population Education Relevant to Women Programmes

Population education is defined in several ways. But for adults, population education is generally a programme in which the participant obtains full knowledge and action-guiding perception of the consequences of his action in the areas of family formation. It also provides for the study of population situation in family, community, nation and the world. The purpose is again to develop in learner rational and responsible attitude and behaviour toward that situation.

Most of the concepts of population education are needed to be included in all types and levels of programmes conducted for women. Some concepts can be special to a certain programme. Even the same concepts can be included with different weightage in different programme. This means that units and information on population education under different programmes cannot be mutually exclusive. However, the mode of presentation, and the detail will differ according to the nature and duration of the programme and the nature of the recipients. It is up to the worker/teacher to pay attention to the nature, needs and interests of audience. He/She should categorize audience and choose messages and media accordingly.

4.2.1 General/Common Concepts

All programmes of women education should include the following concepts:

Concept	Information/Content
1. Basic demographic Concepts.	1. Some facts about the population of village, city & country - demographic.
2. Population increase and its future trends.	1. Approximate increase into he population of village, city and country in the last ten years. 2. If not controlled, predictions for the next 10-20 years

<p>3. The consequences of population and its impact on socio-economics development.</p>	<ol style="list-style-type: none"> 1. Relationship between population growth and macro-level socio-economic development 2. Effect of population growth on provision of basic necessities food, housing and clothing, increase in prices, etc. 3. Population growth and availability of natural resources land and other resources. 4. Effect of population growth on maternal and child care. 5. Effect of the availability of welfare and other services health, education, etc. 6. Population growth leads to several social and economic problems over crowding, division of property in family, litigation & shortage of amenities. 7. Health & sanitation problems due to population increase-air pollution, water pollution, drainage/ sewerage system etc
<p>4. The national population policies & programmes</p>	<ol style="list-style-type: none"> 1. National policy on population growth. 2. Family Planning & related programmes in the community & nation. 3. Organizations involved in population education programmes.
<p>5. Develop rational and responsible attitude and behaviour toward family size, national population programmes and related programmes.</p>	<ol style="list-style-type: none"> 1. Rational and responsible attitude and behaviour toward number and spacing of children. 2. Rational responsible behaviour toward health education programmes.

6. Women involvement in Development and reduction in poverty.	<ol style="list-style-type: none"> 1. Women's role of child bearing. 2. Effect of involvement in other roles-development and its effect on reduction in poverty and improvement of quality life
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4.2.2 Home Economics

Concept	Information
1. Basic necessities shelter and clothing	<ol style="list-style-type: none"> 1. Per capita requirement of basic necessities. 2. Available per capita 3. Malnutrition and resultant poor health
2. Availability of these necessities varies from place to place	Rapid population growth its results lack of available basic necessities, high prices.
3. Rapid increase in population leads to inadequate supply of goods and rise in prices.	Family size and its relation to standard of living. Some idea of comfortable living.
4. Poor standard of living affects adversely the consumption level of people with reference to food clothing, education, medication, facilities	The relationship between population and standard of living. Examples of developed & some developing countries.
5. Growth of population leads to migration from rural to urban areas	Rush of cities, rise of slums, lack of housing facilities and insanitary conditions

4.2.3 Health, Nutrition and Child Care

The concepts of health and nutrition are basic to all women programmes. Therefore, these concepts and related information must be incorporated in all types of programmes for women starting from the illiterate women in formal education, women who need it immediately and the women who will get it delayed benefits that is adolescent and young school girls.

Health

Concept	Information
1. Positive health averts diseases.	Common diseases, communicable diseases; Preventive measures such as immunization; better hygiene and sanitary conditions in .living and cooking etc; treatment of diseases like diarrhea, cough and

	cold among children.
2. Health facilities tend to become inadequate with rapid growth of population.	Available health facilities in town, state and country; inadequate hospitals; Consequences of non availability of health facilities; epidemics.
3. Small families in comparison to large families help in promoting better health.	1. Family size and the health of the members with particular reference pregnancies before 18 and after 35 years of age. 2. Small family better availability of food, accommodation, medical facilities / and other amenities.
4. Malnutrition and under nutrition leads to bad health & diseases.	Meaning of malnutrition & under nutrition results: poor health, diseases, low vitality, poor performance, low yield, low production.
5. Size of family is an important factor in determining the nutritional status of the members.	Family size and its impact on family budget and on food. Perceptive food consumption, quality and quantity of food.
6. Child health and child care Facts for life; The top ten messages from UNESCO.	The health of both woman & children can be significantly improved by spacing births at least two years apart by avoiding pregnancies before the age of 18 and by limiting the total number of pregnancies to four.
a) Relationship between mother's health & Child's health facts for life. (UNESCO Message)	To reduce the dangers of child bearing, all pregnant women should go to a health worker for prenatal care and all births should be assisted by a trained person.
b) proper pre-natal care and child's health.	Importance of breast milk in the early months of baby's life and adding other food from age four to six months.
c) Type of food & child health in	

early months of baby's life and after six months and onwards.	
d) Type of baby food after six months.	Special feeding heeds of children under three years of age. They need to eat five or six times a day and then food should be specially enriched by adding mashed vegetables & small amounts of fats or oil.
e) Care and treatment in diarrhoea.	Diarrhoea can kill by draining too much liquid from a child's body. So the liquid lost each time the child passes a watery stool must be replaced by giving the child plenty of the right liquids to drink-breast milk, diluted gruel, soup or a special drink called ORS. In serious case medical help is needed.
f) Immunization as protection against several diseases.	Immunization protects against several diseases which can cause poor growth, disability and death. All immunization must be completed in the first year of the child's life. Every woman of child bearing age should be immunized against tetanus.
g) Cold and Cough	Most coughs and colds do get better on their own. But if a child with a cough is breathing much more rapidly than normal, then the child is seriously ill and it is essential to go to a health centre quickly.
h) Better hygiene and good health	Many illnesses are caused because germs enter the mouth. This can be prevented by using latrines, by washing and keeping hands clean and by boiling drinking water if it is not from a safe piped supply.
i) Extra meal after illness	Illness holds back a child growth. After an illness, a child needs an

	extra meal every day to make up the growth lost.
7. Responsibility of women for the status of her own health and family's health.	<ol style="list-style-type: none"> 1. Importance of good health, its meaning. 2. Need for developing healthy habits-cleanliness, sanitation.
8. Large Families with lack of facilities suffer from bad health.	Need for good food pure water, fresh air, rest, exercise.
9. Unsanitary conditions lead to the spread of communicable diseases.	<ol style="list-style-type: none"> 1. Factors reasonable for bad health, personal hygiene; lack of nutritional food. 2. Life in large families living in unsanitary conditions, victim to common diseases, communication diseases and preventive measure.

4.3 Principles Underlying Population Education Progress

Since most of the audiences will be youth or adults, basic principles of adult learning should be the base of all population education programmes. Adults learn and accept new things better when learning takes place in an atmosphere of mutual understanding, acceptance, sharing and trust. To create such a teaching-learning environment the following measures may be adopted:

1. An environment of active learning through self discovery be created. People learn better when they feel that they are personally involved in the process. They should be provided changes for mutual discussion and for the discovery of the problems. They should be encouraged to form their own opinions and conclusions so that they can choose the alternatives most suited to their own needs and desires.
2. People should be respected: Each participant should be given due respect, sense of caring for each individual should prevail.
3. A climate of openness be created. All topics of population education demand that opportunities for expressing personal concerns, feelings, ideas and beliefs should be provided.
4. People should be allowed to express their differences and ideas. Their views should be evaluated through group discussion.
5. An atmosphere of trust should be created. Participants should have

feeling that they are trusted and they should learn to trust other participants as well as the teacher/worker/leader.

6. A non-threatening rather supportive psychological environment should be created where people feel confident and express themselves freely.

4.4 Methods and Techniques of Delivery

As less educated and illiterate people relate to the world through their personal contacts and have greater dependence upon communication by words and gestures. Therefore, techniques based on these principles should be used predominantly. Some of the techniques as:

1. **Problem-centred Approach:** Population education programmes must relate to the family and village/community situation problem. This will help in making the participants realize that the knowledge acquired has immediate relevance and usefulness, particularly illiterate people tend to focus on the immediate present.
2. **Self actualization, experimental learning:** This method is designed to help the participants accept responsibility for self and others in a small group learning experience. They learn in a series of learning experiences. Important steps of this method are:
 - a) members of this group take part in a series of small group discussions that deal with topics agreed on by the participants, of course, guided by the group leader/ population education worker;
 - b) they learn more about themselves – present situation, problems etc.
 - c) they decide through discussion and experience. Brief learning sessions encourage self expression, strengthen peer bonds and enables participants to carry major responsibility of the outcomes of deliberations. The use of serialized, flexi-plans and open ended problems presented through a variety of media are the characteristics of this method.
3. **Projective Approach:** This is used when the problems are not posed directly but in an indirect way through the discussion over behaviour in a short story, drama, radio. T.V. or comic strip. Some times this technique becomes useful to open people to discussion on which they are not ready to talk directly.

4. **Use of Audio-Visual Aids:** All instructional and technological media, should be used to enrich and clarify the messages of population education. The media includes films, posters, radio-forum, wall newspaper, cassettes, demonstration, role playing, drama, puppet shows, exhibitions etc.

4.5 Population Education for Women: A Summary

1. Permeation approach is suitable for incorporating population education concepts in most non-formal women programmes.
2. People should discover their problems and solutions through active participation in learning.
3. Participants of programmes should be respected as individuals.
4. A climate of openness be created for providing opportunities for expressing personal concerns, feelings, ideas and beliefs.
5. A combination of approaches like problem centered, experiential learning and projective approaches should be used.
6. Use of audio-visual aids is very beneficial in population education programme.

4.6 Self Assessment Question: Set - 3

Fill in the blanks.

- | |
|--|
| <ol style="list-style-type: none">1. When you incorporate new concepts into the existing programme, the approach is called _____.2. The permeation approach is easy to be used with short, non-formal women programmes because such programmes are _____.3. Women programmes should follow the principle of _____ learning.4. Illiterate adult demands the _____ relevance and _____ of any programme.5. When the problems are posed indirectly the teaching-learning approach is called _____ approach. |
|--|

5. SUGGESTED ACTIVITIES

1. Make a survey of 50 women selected randomly from your work area to find out their employment status, number of hours they work in the occupation and domestic jobs.
2. Identify other characteristics of women in your area who need population education.
3. Identify and enlist women programmes within your department/organization.
4. Identify and enlist women programmes run in your work area by organisation/ministries/departments other than yours.
5. Select programme-wise concepts of population education that can be included in women programmes identified under 2 and 3 above.
6. Select the teaching-learning methods most suitable for the type of target women population in your area.

Note: The course participants who are not associated with any population education or any related programme can perform all above activities with reference to their locality/community.

6. OVERALL SELF ASSESSMENT QUESTIONS

You can answer the following questions in detail in the light of your reading of this unit:

- | |
|---|
| <ol style="list-style-type: none">1. Is it correct to say that Asian woman, enjoys equal right to men. If not, explain the grounds of inequality.2. Do you think that Asian woman is independent to make decision about restricting family size.3. Why literacy or primary level education results in higher fertility.4. How programmemes of health education can help In achieving the targets of family planning campaigns. |
|---|

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PLANNING FOR POPULATION EDUCATION

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TABLE OF CONTENTS

	Page No.
Introduction	242
Objectives of the Unit	242
1. Planning	243
2. Kinds of Planning	243
2.1 Strategic Planning	243
2.2 Management Planning	244
Self-Assessment Test-I	244
3. The Planning Process	244
4. Stages of Planning	245
4.1 Pre-planning	245
4.2 Planning	245
4.3 Plan Formulation	246
4.4 Plan Elaboration	247
4.5 Plan Implementation	247
4.6 Plan Evaluation	247
5. Project Formulation	247
5.1 Project Phases	248
Self-Assessment Test-II	254
6. Constraints in Population Education Planning	254
6.1 The Socio-Political Context	254
6.2 Human and Material Resources	256
6.3 The relative Newness of Population Education	257
7. Population Education Planning Strategies and approaches	258
7.1 Planning Strategies	258
7.2 Planning Approaches	259
Self-Assessment Test-III	261
8. Programme Development for Population Education	262
Self-Assessment Test-IV	267
Bibliography	268
Key to Self-Assessment Test	269

INTRODUCTION

Since the concept of population education was formulated in response to the population problem and to supplement family planning programmes, it is sometimes misunderstood both within and outside the education system as another name for sex education or family planning. Even some definitions of population education include sex education, birth control and family planning education. In fact, it is an education to make people aware of the processes and consequences of population change on the quality of life to the micro and macro levels so that they may be in a position to make informed and rational alternative choices in conformity with the development goals. Population education was identified as “an education programme which provides for a study of the population situation in the family, country, nation and with the purpose of developing in the students a rational and responsible attitude and behaviour towards that situation”.

As an educational programme, the population education is aimed at enabling the young and adults to acquire knowledge and understanding about population dynamics, the causes and consequences of population growth, the inter-relationship of population change to development, as well as the components of quality of life – health, housing, environment, food and nutrition, education employment and social services.

OBJECTIVES

After studying this unit you will be able to:

1. Define the term 'Planning' clearly
2. Describe the kinds of planning
3. Explain the planning process
4. Write the stages of planning
5. Formulate the project on population education
6. Clearly identify the constraints in population education planning
7. Describe the strategies and approaches being used in planning the population education programmes
8. Develop population education programme for your community

1. PLANNING

Planning is the act of preparing a set of decisions or choices for future action in such a way that the available resources (human and material) will be properly used to achieve desired goals. Planning differs from policy, decision-making or administration. Policy is a general statement to guide decision-making, decision-making is about choosing from among alternative courses of action and administration means using appropriate procedures to carry out decisions already made. Planning covers both what is to be done, when, by what means, by whom, and for what objectives. Planning implies chalking out a direction for future action to achieve pre-determined objectives through the optimum use of available resources. Planning is anticipatory decision-making. It is a process whereby a system selects outcomes and courses of action in a series of interrelated choice situations which have not yet occurred, but which are envisioned to occur in the future.

Levels of Planning:

A planning exercise can be attempted at different levels: macro, meso, micro, and institutional. At the macro level, the unit of planning can be a nation or a state or an autonomous region, while at the meso level it can be a province consisting of a number of districts. At the micro level the educational planning is extended to a district, county, block or a village. At the institutional level the educational planning is related to the specific institution or school. A micro level planning relates to the specific institution or school. A micro level planning is an extension of the planning process towards the grass root level.

2. TYPES OF PLANNING

There are two interrelated kinds of systematic planning, each of which has different purposes strategic planning and management planning. Each of these may be utilized for both long and short-range planning, as well as for comprehensive planning or planning concerned with some aspect of education.

2.1 Strategic planning, which fosters and requires productive relations and linkages with public agencies and groups other than those directly responsible for education, should receive primary attention because it involves the determination of policies and the establishment of new or revised goals and objectives. This concept should be of special interest to educational leaders who have a major responsibility for developing and implementing plans because, if properly utilized, it will help to ensure the commitment and support that is essential to facilitate needed changes.

2.2 Management planning On the other hand it is concerned with the effective and efficient attainment of goals and objectives that have been agreed upon and accepted. It may therefore, be conceptualized as that portion of the planning process that is implemented after the basic decisions relating to goals and policies have been made. Through appropriate management planning, those responsible for the implementation of the decisions should be able to ensure that all goals and objectives are achieved.

Everyone concerned with education, needs to understand that strategic and management planning are interrelated in many ways and that, from a long-range point of view, the effectiveness and meaning of each will be determined primarily by the effectiveness and meaning of the other. Unless appropriate goals and policies are identified and accepted through strategic planning, even the most effective management planning will have limited significance. Otherwise, unless management planning ensures that the goals are effectively achieved and policies implemented, many of the potential dividends from strategic planning will be lost.

Self-Assessment Test-I

Here are some statements. Tick the letter 'T' if the statement is true. If the statement is false, tick 'F'.		
T	F	Strategic planning can only be used for short-term planning
T	F	Management planning is concerned with the attainment of objectives.
T	F	Strategic and management planning are interrelated
T	F	Strategic planning requires relations only with the agencies responsible for education.
T	F	Management planning is the portion of planning process implemented after the decisions on goals and policies are made

3. THE PLANNING PROCESS

The planning process starts out from policy statements which are also referred to as goals and aims. These are guides to decision-making. The policy is reflected in the objectives which are broad outlines of tasks to be accomplished. The objectives are specific, testable and, in some cases measurable. The strategies are optional means or methods of achieving the objectives.

In planning, three main functions must be performed;

- i. decision-making
- ii. technical preparation of the plan and
- iii. implementation and control

The decision-making is the determination of the main goal of the education system. Usually, this function is performed by the highest government authorities.

To achieve the goals decided on, the education system needs certain inputs viz teachers, buildings, equipment. In the technical preparation of the plan, the quality and quantity of inputs required are estimated and an estimate is made as to whether these inputs will be available. If inputs are not available, the goals will have to be revised downward. If they are available, the planners can proceed to more detailed planning. Such planning will include not only estimates of quantities of inputs needed to reach the goals but also a time-table showing when the inputs need to be available.

In the implementation of the plan, the steps needed to attain the goals are taken and control is exercised in order to ensure that the necessary execution of the plan takes place. This operation is carried out by the administrative machinery of the country.

4. STAGES OF PLANNING

The educational planning process comprises several phases or stages. More important of these are:

4.1 Pre-Planning

The principal task in the pre-planning stage is formulation of educational objectives and their approval by the appropriate authorities. The next steps would be:

- determining planning procedures
- creation of administrative machinery
- collection and analysis of relevant data

4.2 Planning

The second stage in the process is planning. The main steps in the stage are:

4.2.1 Diagnosis

Ascertaining the adequacy of current educational programmes and facilities. The purpose is to identify weaknesses and shortfalls in nature, magnitude, quality and level of achievement of educational objectives. In particular, the diagnosis is based on the criteria of:

relevance to social aspirations;

effectiveness in achieving national objectives;

efficiency in the use of resources

4.2.2 Policy

The diagnosis of the existing situation would reveal deficiency which need to be removed with a view to enhancing relevance, effectiveness and efficiency. Such a corrective action has to be based on the national educational policy spelled out by competent authorities.

4.2.3 Costs

Costing of future needs is the next step. It would help determine the magnitude of financial outlay which should be available if the determined needs are to be satisfied.

4.2.4 Targets

By extrapolating data pertaining to past trends, the educational planner sets targets and establishes priorities, of course, keeping in view the resources likely to become available in the future. He also examines alternative means of achieving the objectives.

4.2.5 Feasibility

The targets may be set according to the identifiable needs and the priorities assigned to them. But they have to be subjected to feasibility testing to ensure their consistency and achievability.

4.3 *Plan Formulation*

It is the preparation of brief, but adequate statements for:

- i. enabling the appropriate national authorities to make decisions and approve the programme and

- ii. providing a blueprint for action and implementation.

4.4 *Plan Elaboration*

Before an educational plan can be implemented, it has to be elaborated so as to clearly identify individual action units. The process of elaboration passes through:

4.4.1 Programming

It divides the plan into broad action areas each of which aims at accomplishing a specific objective. A programme comprises activities usually supervised by the same administrative unit.

4.4.2 Project formulation

A project aims at achieving a specific sub-objective within the main objective of the programme. Project formulation is working out the details of costs, time and schedule etc. for various activities to be launched.

4.5 *Plan Implementation*

It is the taking up of individual projects for execution. Here the planning process merges with the management process. Based on the annual budget, an organizational framework is developed for various projects. The resources (men, money and materials) are mobilized to implement the projects of the plan.

4.6 *Evaluation*

During the implementation of the plan, constant evaluation of the rate of progress and detection of deviations continues. This evaluation highlights weakness in the plan's unrealistic targets, inadequate financial provisions, improper phasing and throws up matters for necessary revisions. It thus provides the basis for re-planning.

5. PROJECT FORMULATION

A project is a planned undertaking, a unit of management that clearly specifies what is to be accomplished, over what period of time, and at what cost. A cluster of projects with specific time phase for the accomplishment of intermediate objectives is contained in a programme. A programme, in turn, is an intermediate activity which breaks down the strategic decisions of a plan into different components, or projects, which are technical and short-term in nature. A

programme is usually a part of a complex structure for plan implementation.

Thus a plan encompasses both the programme and the project. The plan reflects organizational objectives while the programme is a part of the plan designed to accomplish intermediate or carrying out of specific components of the plan according to the programme. In certain sense, because a project is an output-oriented activity, it is an active concept whereas the plan and programme are passive in their nature of mainly providing goals, directions, strategies and the overall framework for implementation.

5.1 Project Phases

There are many phases or action sequences in the life of a project. These are as below:

5.1.1 Project identification

The first phase of a project starts with the study of the environment within which the project is to be implemented. It involves learning about the forces, conditions and institutions that are relevant to the project. Based on the study of the environment, one may be able to develop an understanding about:

- i. the availability of resources
- ii. the demand for output
- iii. existing government priorities
- vi. programme thrusts, and relationship with other projects
- v. relevant social trends
- vi. possible constraints and hazards and
- vii. the nature of project appraisal

Such an examination will be useful in assessing the potential ideas and innovations about the project. It would also lead to a better understanding about the parameters/constraints within which the project is likely to be implemented.

5.1.2 Project formulation

The detailed project formulation is the next step. Before arriving at the strategy to be utilized in the project, a planner should:

- analyze basic requirements to conduct project through;

- estimate resources needed for meeting expenditures, engaging personnel, within the given time-frame
- estimate economic yields and other social benefits
- list possible obstacles and other problems and
- examine options and available alternatives vis-a-vis each of the above.

While preparing the project document the following aspects need to be included and stated explicitly:

- i. **Title:** This should reflect the main ethos of the project in clear terms. It should be self-explanatory. If it is necessary a second sub-heading should be provided. The main activity to be undertaken, its possible methodology, the region it relates to and special target group it focusses upon, if any, may find place in the title itself. However, the simplicity and attractiveness of the title (preferably that of its acronym) must be given careful thought.
- ii. **Rationale:** This section should provide the rationale and the justification of the project. It could do so both in terms of the overall national/provincial policy and also in terms of the micro issues/ reasons that justify the selection of that particular region for the implementation of the project. If possible, reference may be made to the earlier efforts made in this regard with the help of peoples participation and community's involvement. If there are some examples of similar project being launched elsewhere, these may also be referred to in the project document.
- iii. **Objectives:** These are the broad objectives of the project. For example, it could cite achievement of universal literacy or achievement of literacy in the case of the female population of the project area as one of its objectives. Similarly, it could cite increasing the employability or performance of skills of students as one of its objectives. Normally a project may have two to four, or even five objectives. However, there is no hard and fast rule to this.
- iv. **Target:** The target is the expected outcomes expressed in quantitative and qualitative terms within a definite time frame. If it is possible, a target should be specified for each period during the operation, so that the progress could be monitored periodically.
- v. **Activities:** The targets fixed for the period have next to be broken down into specific activities which need to be undertaken. For example, if the target was to improve enrollment in the local school then the activities

may be to undertake household survey to identify the children not attending the school, or to launch a community drive or to improve the quality of teaching and provision of better facilities in the school. Each activity must be defined according to:

- function of activity in relation to the project .
 - time to be conducted
 - area of coverage
- vi. **Project scheduling:** This should include: (a) duration of a project; (b) activities at different periods of time; and (c) responsible organization and personnel.
- vii. **Resources:** In this section the resource requirement of the project is spelt out. It may include financial, material and manpower resources as well as the time frame in which these would be required. It is advisable to present resource requirement under specific budget heading. Consumable resources should be stated separately from the fixed assets, or infrastructural requirements.

In the final presentation of a formulated project, graphic aids such as the following can be effectively utilized:

- a. **Gantt bar charts:** This simple device enables the commencement and the duration of each project activity to be represented as a bar on a calendar.
- b. **Flow charts:** The flow of work in a project is charted from commencement to completion. This technique is useful for at least a moderate-sized project in which a number of activities are to take place. A flow chart would help to simplify the complexity of various stages to be undertaken. It should show the order in which various activities are going to take place and should also indicate the mode of operation.

5.1.3 Project appraisal:

A project can be appraised along following levels:

- i. **Preliminary Appraisal:** The project is assessed in general form. It is checked whether it has been submitted within the given time frame i.e. before the dead-line, and whether it has been submitted to the right place. What has been the route of its submission? Is it in the proper format? Have all the enclosures and other related documents been submitted alongwith?
- ii. **Feasibility Study:** At this stage, the project is examined technically

and more comprehensively. Special attention is paid to the design of the project. The assumptions that are made in the project and the proposed generation/use of data is examined closely along with instruments of survey, if any. Even the resource requirements and the time frame are examined in the context of the total task being proposed. This examination being technical in nature is usually undertaken by experts/experienced personnel.

iii. Appraisal: At this stage, the project is evaluated in its total context. Special attention is given to the technical report on the project described under feasibility. But in addition to it, the agency undertaking the project and the main ethos of the work are also given due consideration. If it is felt that the technical aspects of the project should be suitably amended, redrawn or modified as per the expert advice, this decision is also undertaken at this stage. In other words, appraisal is done in a holistic manner to gather a total view about the proposed project.

5.1.4 Project authorization:

The approval of a project follows its appraisal. As mentioned earlier “approvals” by technical, financial, political and administrative officials may take place before final authorization.

5.1.5 Project implementation:

The project manager pools together various resources and skills to achieve specific objectives within a budget and time table. The skills required will vary according to the nature of the project. The organization for project implementation usually takes into consideration a number of factors: the form of organization, arrangements to be adopted, the relationship of the implementing unit with the parent organization, the degree of independence from established administrative requirements, the safeguards to ensure accountability, winding up and evaluation of the project at its termination.

Project implementation crucially depends upon the availability of resource inputs in adequate quantity and acceptable quality. Effective planning would require that these resources be programmed so that they may be available when needed.

Action planning and control are two interrelated functions in the project implementation process. The former concerned with the setting of goals, the

identification of activities, allocation of inputs and the setting up of schedules. The later is concerned with the assessment of the degree to which progress is concerned towards the objectives, the determination of the causes of deviations, and the adoption of corrective measures.

Problems in project implementation

Usually, there are several minor and major problems that are confronted in the implementation of projects. Some of these have been identified and classified below:

i. Financial problems

- Withdrawal/deferment of financial support
- Inadequate support
- Delays in release of funds
- Slow and tedious accounting and auditing processes
- Project funds used for other purposes

ii. Equipment problems

- Lack of equipment or inappropriate equipment
- Breakdown and accidents
- Lack of transportation facilities
- Non-availability of spares

iii. Problems of educational materials

- Shortage or non-availability of materials
- Delayed acquisition
- Transportation problems
- Relevance and quality

iv. Technical problems

- Lack of feasibility study
- Shortage of good design and engineering
- Limited land and space
- Revision of plans and programmes of work
- Lack of proper supervision and technical expertise

v. Natural problems like floods, draughts, or earthquakes etc.

5.1.6 Project monitoring:

The principal objective of a project monitoring system is to develop effective means of assessing the progress. Its main objective is to oversee the decision making in implementation process and to record the achievement of the project's objectives. Monitoring also serves as the link between project implementation and planning. It documents experiences in implementation stage which provide useful data for planning the next phase or a next project.

Project monitoring enables the manager to adjust to conditions obtained in the execution of the project so as to achieve the desired goals within the desired time frame. The project schedule may be revised by updating cost or time estimates. To accomplish these functions, the reporting and management information system should include physical measurements of accomplishments, status of resources especially funds, and problems encountered.

5.1.7 Project evaluation

Project evaluation may be conducted during a project or after its completion.

The evaluation of on-going projects will indicate the progress of implementation based upon the plan. It will also show if the input requirements are adequate and, in time, and whether conditions for effective implementation are available in the organization.

Evaluation is also directed towards the assessment of the extent to which output objectives have been attained. It is also a useful indicator for reviewing the planning and implementing experiences as they relate to the supply of inputs, the role of environmental factors and the accuracy of estimates.

SELF-ASSESSMENT TEST-II

1.	Here are some statements. Tick the letter 'T' of the statement is true. If the statement is False, tick 'F'		
	T	F	The planning process starts from the objectives
	T	F	Programming divides the plan into broad action areas.
	T	F	A project is collection of programmes.
	T	F	Project identification starts with the study of the environment within which the project is to be implemented
	T	F	Evaluation refers to the assessment of on-going and completed projects
2.	Arrange the following stages of planning in logical order: planning, plan formulation pre-planning, project formulation, programming, evaluation, implementation.		
3.	Briefly discuss the planning process.		

6. CONSTRAINTS IN POPULATION EDUCATION PLANNING

In this section, we identify the factors which raise problems in the development of programmes of population education. Planners most of the time have to envisage specific activities aims at minimizing the constraints and making the best use of opportunities. Where the constraints arise from wrong perceptions about the nature of population education or from a lack of awareness of its potential contributions, these activities may be designed to promote support, participation and co-operation. Where the constraints are due to the lack of resources, the activities may involve identifying existing resources and developing ways in which they can be pooled. These two goals can often be combined; providing information about population education, to those people whose interest or support is desired. In this way, activities can be integrated with the opportunity for them to contribute to programme planning and development and in so doing; to help shape the programme to meet their needs.

6.1 *The Socio-Political Context*

One of the first stumbling blocks to the development of population education programmes may be the way people actually perceive population education and extent to which they understand its significance. In the early stages, at least, this perception may be more important than the reality as recognized by the planners. The difference between perception and reality is sharpened by the fact that population education activities have not usually evolved from within a

community or a society but have nearly always been initiated from above- from ministries, from private organizations and from elites; all of them often responding to initiatives from international agencies. The planners need to be particularly careful to include activities which will increase the people's understanding of population education and help them recognize its potential value. This kind of objective might be achieved through the media and through awareness - motivation activities which reach opinion leaders in the community, e.g. labour leaders, teachers, journalists, preachers, etc.

All countries have policies and plans for national development which, explicitly or implicitly, contain population components. Population education activities can and should be more closely related to these overall plans. This is essential and possible - whether the policies are anti-natalist or pronatalist, or concerned with changing patterns of population distribution or with changing rates of growth. It is important that policy-makers, in considering immediate or short-term "solutions" to population problems (no matter how defined), should begin to think of the more distant future and to make educational programmes an explicit part of policy, integrated with overall population planning and development strategies. Population education planners may need to "educate their masters", the policy planners, in order to achieve both commitment and planning integration. Meeting or seminar workshops could be organized for policy-makers and planners in population-related subjects, in order to encourage joint consideration of the national population situation and its implications for socio-economic development.

There is another way, too, of looking at this problems of coordination within a nation. In many countries, population policies announced at the highest levels of government have not attached the attention and support of all bodies whose cooperation is needed for effective implementation. For instance, ministries of education have not always seen the development of population education programmes as a matter of high priority. It may, therefore, be the duty of planners of population education programmes to find out ways of making clear to educators that population education is relevant to the policies and strategies of the educational systems of which they are a part.

Another problem which has planning implications concerns the political and economic power distribution between social classes, political or ethnic groups within a society is the adoption of family planning concepts. Fears about differentials in fertility among these groups and the reversal of the demographic situation, when moderating population growth in one group and not in the other (majority/minority relationship), are problems which must be carefully investigated and considered before population education programmes are initiated.

Planners must also make themselves aware of socio-cultural attitudes and norms: a number of Latin American educators have noted that lack of scientific understanding of the socio-cultural elements of sex and family life and of the relationship between community values and behaviours has limited the development of population education programmes in their countries.

6.2 *Human and Material Resources*

In the early seventies, population education programmes in schools in a number of countries of the developing world received relatively large support from a variety of international funding agencies. Many of these programmes enjoyed resources which were not available in most other educational areas. Programmes, planned at a national level, often set up new bureaucratic structures within ministries of education - to plan and implement seminars, workshops & training programmes, to defuse the seminars idea of population education and to encourage programme support. In the absence of local professionals possessing certain types of competencies that were thought to be needed, funds were usually available for foreign advisers and consultants. The size of the funds also blocked efforts of coordination and created frustration among personnel whose programmes were less well endowed.

The lack of trained personnel for planning, for teacher training, for the development of population studies, for curriculum development and for teaching has also been a major constraint in the development of programmes. However, for programme planning and implementation, considerably more personnel with appropriate skills may be available than is thought to be the case. And the amount of time and resources needed to provide them with the learning and skills specifically related to population, though not inconsiderable, may be smaller than is often imagined when new programmes are planned. Planners are well advised to identify these potential resources through surveys of current educational programmes and activities in areas related to population education.

One particular aspect of the newness of the field deserves special attention, namely the training of future programme leaders. Several countries have felt the need in recent years to provide certain individuals with long-term training abroad in population education or in related fields. When these individuals returned home, it was frequently found that their training was alien to local conditions and no longer completely relevant to local programme development. Greater emphasis has now, therefore, been placed on short-term training in the home country or region and on short internship to visit projects in other countries.

Shortages of both human and financial resources, while serving as constraints in some respects, can also spur planners to develop strategies which

will promote co-operation and innovation within the educational setting and at the same time, bring about increased integration of population education with other programmes through a greater sharing of responsibility.

6.3 The Relative Newness of Population Education

The fact that population education programmes do not possess a long history or a great wealth of experience is sometimes seen as a restriction to their development. And it is true that there are few models upon which to build. However, there exists a large amount of experience, in planning and implementing innovation in school and out-of-school systems of education, which is relevant and which planners should review. All too often in any new educational programme, it is assumed that nothing is known about the task and that new research efforts are needed. Without denying that this problem exists, planners should phrase their questions in new areas in ways that will make it possible to use the results of existing experience in related areas. And specialists who have this related experience should be involved in the planning process.

In fact, the comparative newness of population education programmes can be an asset. Planners may develop new strategies to short-cut old difficulties. They have the opportunity to innovate without encountering as much build-up of resistance as was perhaps the case with earlier projects in similar fields.

In 1974, Alvin Toffler began his book *Learning for Tomorrow*: with these sentences: "All education springs from some image of the future. If the image of the future held by a society is grossly inaccurate, its educational system will betray its youth". If we do not wish to betray our youth, our educational planners and administrators must take this challenge seriously. There is an urgent need for an integrated approach to planning and decision-making which will study the past, understand the present and develop broad based yet flexible plans for the future based on sound values and a vision of a better world for all.

7. POPULATION EDUCATION PLANNING STRATEGIES AND APPROACHES

There are several approaches for planning the population education. There is a need to get the population education to be socially approved. Population education also requires qualified manpower for proper implementation of population education programmes.

7.1 *Planning Strategies*

Planning for population education is not significantly different from any other educational programmes. Planning at two levels, macro and micro, is generally recognized for population education programmes. An example of macro planning is that which takes place at the national level. Such a plan sets general targets and guidelines, allocates national resources to the educational sectors among others and provides a reference base for decisions on national priorities. This plan, however, is not an action plan. A macro plan has to be translated into a series of micro-action plans. These plans are the products of micro level planning. The micro approach to planning, also known as the 'environment based' approach, involves planning at the local level. In this process, the local situation (a community for which a population education programme is intended) is examined to identify problems and needs of the target clientele, set goals and objectives of the programme, mobilize resources (both human and material) and assign priorities to programme activities. Micro planning is building an educational programme 'on site'.

The majority of experts on population education agree that a combination of macro and micro approaches will be a desirable strategy for planning population education programmes. The translation of a macro plan into a series of micro-action plans requires both competent planning from the top down and a planning process from the bottom up. However, flexibility must be observed throughout the planning and programme development processes.

The field workers must be knowledgeable and appreciative of both approaches. Moreover, because of their direct involvement in the planning of micro level plans that are specific problem and action-oriented, they must develop certain competencies and skills for planning micro-action programmes at the community level. This approach generally operates on the principle of involving local people in planning, implementation and evaluation of a programme which is intended for them. The experience has shown that the micro approach helps develop a sense of responsibility, confidence and self-reliance among the people in the community and motivates them to undertake activities as these are geared to the solution of their problems.

Having conceived the role and scope of macro and micro approaches for planning population education programmes, the next question for the consideration of programme planners is whether the programme of population education in the out-of-school sector should be designed and planned as a self-reliant, independent programme emphasizing only population education or should it be an integrated programme of economic and social development with considerable emphasis placed on population education. This problem about the nature of an out-of-school population education programme was discussed in detail in a Regional Consultative Seminar on Population Education for Out-of-School Youth and Adults. In this seminar, the participants from nine member states in Asia and nine United Nations Specialized Agencies and Non-Government Organizations unanimously recommended that out-of-school population education programmes should be integrated with other programmes of development carried out by different agencies in each country. The specific recommendations of the seminar for planning were as follows:

1. The national authorities should incorporate population education as an integral part of an overall programme for development;
2. The planning approach should be one of combining the elements of macro and micro planning, to the extent that such combination is possible. For this purpose the national authorities should endeavour to build a two-way communication system;
3. While drawing up a programme for population education, the principles of co-ordination should be kept in view so that the programme does not run counter to already existing programmes. Moreover, the coordinating authority should ensure that relevant information has been obtained from and disseminated to all the agencies /departments, government and non-government, which are in one way or another responsible for educational programmes. Provision should exist for periodical mutual consultations.

7.2 Planning Approaches

The population education programme, like other programmes concerned with the improvement of the standard of living and the general welfare of people, must be so developed as to help solve problems and meet the needs, interests and aspirations of the individual, the family, the group and the community. The programmes should, therefore, be individual, family and community-based, if such programmes are to be meaningful.

It is also important that the field worker at the village level should understand the relationship among the individual, the family, and the groups within the community; and know how the community and the nation are affected

by population problems. Field worker, therefore, must have the ability to develop a sound village programme with the people. Among the approaches that a village worker might bear in mind are briefly described on the following pages.

7.2.1 Individual approach.

In this approach, the field workers begin by contacting individuals personally. If the field workers are knowledgeable about some local leaders or some outstanding individuals in the village, they should make it a point to visit them in their home or on the farm/factory. During the first visit, the field workers should try to establish friendship and credibility. Later, the field workers may provide information and advice, if this is sought by the target clientele. Individual projects can then be started based on their needs and interests. Such projects should be simple to ensure success, i.e. result in improvements in their lives.

7.2.2 Family approach

This approach involves all members of the family. The field workers should be aware of the influence that members have on each other, particularly in the decision-making pattern of the family. For example, if decision-making in the family is shared by husband and wife in matters pertaining to home and family and even farm operations, the field workers should address their educational programmes to both husband and wife. If the field workers entry point for population education for the housewife is food and nutrition, a farm activity or some other interest activity could be the entry point for the teaching-learning activities designed for the husband. The young members of the family should also be invited in population education activities through work or play activities. These could be starting points for initiating changes for improving family and village life.

7.2.3 The special interest or group approach.

Women's associations, farmers and youth groups or associations, and workers associations provide opportunities for group discussion on topics which matter to them and their community. Such groups can even be informal. As the field workers listen to their conversations and discussions, they would be able to identify common problems and the needs that the people express. Much can be accomplished if village people discuss, plan, and act together. The field workers role is to plant ideas, encourage people, analyze the situation, assist in planning and ensure action resulting in satisfaction among the people with whom he works.

7.2.4 The integrated or village approach

At the village level, the field workers should recognize the fact that they are part of a team working together cooperatively to accomplish the goals of out-of-school population education programme. Therefore, it is important that they work closely with representatives of other development programmes of both government and private agencies in developing an integrated programme aimed at meeting the needs of all the population in the village. A common understanding of the goals to be attained must be established for everyone on the team. It is necessary to lay down a complete plan of the educational programme that is intended for the village.

The characteristics of the work situation of the field workers determine what approach or approaches they should apply in a particular area when planning with the people.

Whatever the approach or combination of approaches may be followed by the field worker, the basic guidelines and the process for evolving effective programmes would remain the same.

SELF-ASSESSMENT TEST III

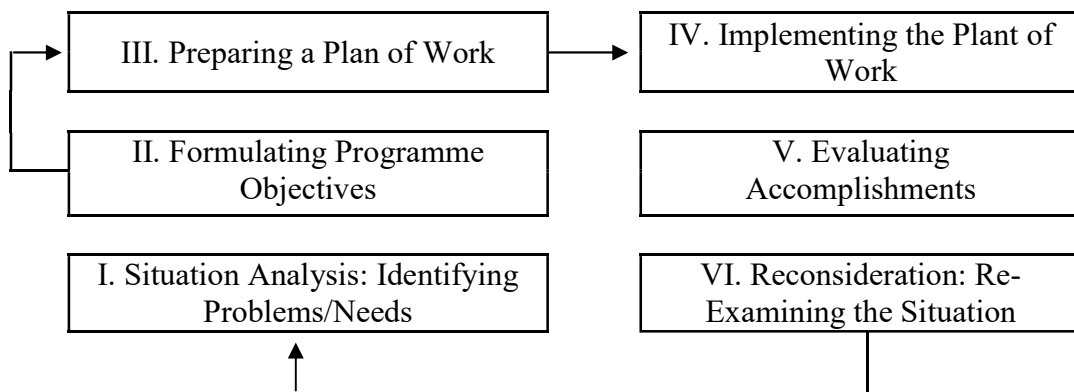
- | | |
|-----|---|
| 1. | Here are some statements. Tick the letter 'T' if the statement is true. If the statement is False, tick 'F' |
| T F | The newness of population education is a serious problem |
| T F | There is no need for training the future programme leaders of population education |
| T F | Population education programme is concerned with the improvement of the standard of living |
| T F | Associations can be categorized as special interest or group approach |
| T F | Planning for population education is significantly different from other educational programmes |
| 2. | Name the four planning approaches applicable to population education programmes- |
| i. | _____ |
| ii. | _____ |
| 3. | What are the problems which hinder the development of population education in a society? |

8. PROGRAMME DEVELOPMENT FOR POPULATION EDUCATION

Any systematic attempt to promote population education starts with the preparation of a plan which shows the focus or emphasis, priority concerns and scheme of the educational programme to be pursued. A good programme does not just happen. It is to be developed. Designing a programme for population education is not an easy job, it is a real challenge to every body involved in it in one way or the other. Analyzing situations, synthesizing facts, making sound decisions as to what action to take in the educational process require certain skills and techniques on the part of the planners. Trial and error can be frustrating and costly. But systematic planning and programme development invariably lead to the discovery of better courses of actions, the determination of relevant specific operational objectives, and the solution to problems likely to be faced by the target clientele.

Programme development is a continuing and repeating cycle of steps or procedures that frequently overlap with each other. There is no short cut to the process. Each step has to be accomplished because each one affects the next. There are no fast rules that can be followed to accomplish each step, as details must be worked out to fit a given situation. The experiences of the field workers and the target clientele as they work together are among the basic factors that will determine the phasing of the programme development process. A brief description of the major steps and the procedural guide-lines are presented below:

Schematic presentation of the process



The diagram indicates evaluation as one of the six step. In fact, it is a built-in process with the assumption that each step is being evaluated and the results of this evaluation provide a basis for decision-making and planning.

Step I. Situation analysis

Sound programme development starts with the analysis of the actual situation. In analyzing the situation, the field worker should use facts gathered on the situation through a combination of various means such as review of existing documents, meetings with local leaders and field workers and specialists. Informal consultation with groups in the community and organized surveys to identify significant needs and interests of the target clientele and socio-demographic characteristics of the community.

It is recognized that a need implies a gap between what is and what ought to be. By studying the situation (the community/village which is the target of the programme), "what is" can be determined. Examples of the kinds of information that a programme planner may need to analyze 'what is' are:

1. Socio-cultural and religious characteristics, e.g. (a) the people involved and their religious affiliations, number, age, educational attainment, housing, nutrition, health, sanitation and demographic characteristics, (b) organizations in the area - social, religious, cultural, economic, and political.
2. Physical conditions, e.g. (a) land use, soil type, major crops, area planted, yield, livestock, machinery, equipment, etc.
3. Economic conditions, e.g. (a) land tenure system, labour supply and cost, prices of agriculture products, transportation, markets, etc., (b) existing development programmes including those on population related matters, etc.
4. Facilities and assistance available in the community.
5. Other pertinent background information on the area involved depending on the kind of programmes being planned.

Once the problems and needs have been identified in the local situation they must be prioritized, taking into consideration the problems that affect the great majority of the target clientele and which have to be attended to within a given time. An effective programme cannot bring all things to all people at the same time. There must be a system of priority.

Step II. Formulating programme objectives

As in every educational activity, the objectives of population education are aimed at bringing change in what people know, what they feel and think and what they actually do. Because objectives express the ends towards which the educational efforts are directed, a great deal of thought must be put into their

formulation. Objectives can be categorized as sound if they are:

1. Dynamic and likely to promote action.
2. Socially desirable
3. Achievable in terms of the maturity of the group and available resources.
4. Developmental, leading to constantly higher levels of achievement.
5. Definable in terms of behavioural changes in people, changes in knowledge, skills and attitudes.
6. Evaluative, i.e., they permit gathering of evidence of actual progress of the people.
7. Specific and clearly worded.

In a nutshell an educational objective can be said to be sound only if its statement, besides other things, provides information about the following three major components:

1. The audience to be reached.
2. The contents or subject matter to be covered.
3. The behavioural changes or what changes in knowledge, attitudes, skills, awareness, interest, understandings, abilities that need to take place in the people concerned.

Objectives may be classified as long-range, intermediate and immediate (measures to achieve the long-range objectives). In between the long-range and immediate objectives are intermediate ones. For example, the long-range objective of population education programme is “to improve the quality of life of the people”. Intermediate objective may be expressed in terms of what can be done to improve the physical and social well-being of the family. Example: “To enable mothers to develop awareness and understanding of the importance of child-care for the improvement of quality of life”. Within this context, an immediate objective would be, among others as follows: “As a result of the teaching-learning activity, the mother should be able to explain the effects of a large family on food and nutritional requirements of the family members”.

Step III. Preparing a plan of work

In a programme development process, statements of situation highlighting significant needs, and problems of the people and the long-range objectives to be achieved within a specific period of time are generally followed by a definite plan

of work. A plan of work is also called action plan. It is so because a plan of work is a statement of the activities to be implemented. A well thought out plan of work includes the following information:

- | | |
|---|-------------------------|
| a) Who is to be served | b) What is to be done |
| c) Who is to do it | d) How it is to be done |
| e) When it is to be done | f) Where it is to be |
| g) How results are going to be measured | |

Step IV. Implementing the plan of work

This is the stage where a plan of work mutually developed with a clear understanding of the procedures and the roles to be performed by all concerned individuals and agencies has to be put into operation. Experiences has shown that one of the preliminary steps to be taken in the implementation of population education programme like other education programmes is the mobilization of planned human and material resources. A clear understanding and mutual trust in the capabilities and potentials of each participating agency in the implementation of the planned activities are extremely important to ensure smooth implementation of the population education programme.

Step V. Evaluating the accomplishments

Population education, like any other educational programme, is expected contribute to the social and economic development of the target clientele. But how can population educators tell whether or not the objectives of a population education programme have been attained? They look for indicators or evidences that a change in the 'right' direction has taken place in the target clientele as a result of the teaching-learning processes, Thee evidences of success are expressed in terms, of observable behaviour or results of behaviour.

In general terms, the following are some examples of social indicators of expected outcomes that can be subsumes under the four broad headings. Other categories are possible. The list is by no means exhaustive:

1. Physical improvement

- Adequate food (kind and quality)
- Improved health and nutrition of family members
- Adequate housing
- Clean home surroundings.

2. Social Development

- Improvement in social status of the family
- Development of local leadership to assume leadership roles in their respective communities to provide continuity of the programme
- Family and child welfare
- Effect of recommended practices on the system of value, code of conduct that govern individual and group behaviour, kinship or religious institutions
- Positive attitude towards the programme

3. Economic development

- Increase in income
- adoption rate of the income-generating practices being recommended.
- Participation or increased participation of target clientele in gainful employment

4. Integrative

- Extent to which local initiative has been generated and involved in the planning, implementation, resource mobilization and evaluation of the programme.
- Extent to which agencies worked together cooperatively and coordinatively.

Evidences of changes are not readily observable in human beings. However, evidence of success in attaining outcomes is indicated by what a person does, not merely by what he says. Such questions can be asked: Have the target clientele (farmers, homemakers, youth, etc.) done anything as a result of the teaching-learning activity? Has there been a change in the status or way of life since the teaching-learning activities began?

Determination of the indicators of educational experiences is a vital step in planning for and defining the objectives of the teaching plan. The analysis of the teaching plan in terms of what is intended to be done (specific objectives); what is intended to be taught (subject matter); how the educational work is to be done (teaching methods or learning experience); who are to be reached target clientele; and what is expected of the target clientele to be able to do (behavioural changes expected or behavioural outcomes) enable the field worker to anticipate in desired behavioural changes. This is also a preliminary step in the evaluation process.

Step VI. Reconsideration -re-examining the situation

Based on the results of evaluation in terms of accomplishment of the programme objectives, emerging new problems, changing needs and aspirations and availability of resources, the entire population education programme may need to be reviewed and replanned. The process to be followed and the people to be involved for collecting, analyzing and interpreting the data for the assessment of needs and measurement of accomplishments will be the same as described under Step I (Situation analysis) to Step V (Evaluating results).

SELF-ASSESSMENT TEST IV

1.	Here are some statements. Tick the letter 'T' if the statement is true. If the statement is false, tick 'F'.		
	T	F	Any attempt to promote population education starts with the preparation of a plan
	T	F	There is no need of prioritizing the problems in the process of situation analysis
	T	F	Objectives are aimed at bringing change in what people know, what they feel and think and what they actually do
	T	F	Population education is expected to contribute to the social and economic development of the target clientele
	T	F	All education springs from the image of the past
2.	Write six step in the population education programme development:		
	(i)	_____	(ii) _____
	(iii)	_____	(iv) _____
	(v)	_____	(vi) _____
3.	Why situation analysis is so necessary in the development of population education programmes?		

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KEY TO SELF-ASSESSMENT TESTS

TEST-I					
1.	F	T	T	F	T
TEST-II					
1.	F	T	F	T	T
2.	Please	see the text			
3.	Please	see the text			
TEST-III					
1.	T	F	T	T	F
2.	Please	see the text			
3.	Please	see the text			
TEST-IV					
1.	T	F	T	T	F
2.	Please	see the text			
3.	Please	see the text			

**MANAGEMENT OF
POPULATION EDUCATION**

Writer: Mr. S. M. Shahid

Reviewer: Dr. Iftikhar-ud-Din Khawaja

CONTENTS

	Page
Introduction	274
Objectives	274
1. What is Management	275
1.1 Art Versus Science	275
1.2 Importance of Management	276
1.3 Functions of Management	276
1.4 Key Characteristics to the Understanding of management	278
2. Management and Population Education Programmes	279
2.1 Management problems and issues	279
3. Population Education Projects and Programmes	281
3.1 Experiences and lessons learned from the population education projects	282
3.2 Co-ordination strategies to Population	283
3.3 Non-formal Population Education Programmes	283
3.4 Non-Formal and Formal Population Education Programmes	284
4. Managing Development Issues	284
4.1 Characteristics of Population Programme/ Programmes	285
Self Assessment Question-I	287
Self Assessment Questions-II	288
Self Assessment Questions-III	289
Bibliography	289

INTRODUCTION

Management as a process deals with the achieving of objectives set for an organization. It is well said that every one of us is a manager. Management is practiced in almost all aspects of human endeavor: daily routines of a housewife, running of educational institutions, business, industry, government offices, etc.

The systematic study of management as a science emerged in the first half of the 20th century. The Industrial Revolution of the 17th century was responsible for the emergence of complex organizations which necessitated the scientific study of effectiveness and productivity. Most of the concepts and principles thus developed were geared to maximize the performance of the member of these organizations. The overall function of the manager is thus to see that desired results are obtained. He must ensure that organizational objectives are reached by planning, organizing, directing and controlling the activities of organizational members.

In this unit, we shall study how projects/programmes/organizations are managed and how their managers set and achieve their goals or objectives.

OBJECTIVES

After studying this unit the students are expected to be able to:-

1. Understand and explain the concept of management, its nature, importance and functions.
2. Discuss and apply the management concepts in the field of population education.
3. Comprehend and discuss the strategies of coordinating managing and monitoring the population education projects.
4. Critically review and explain the management problems of development and techniques to handle them.
5. Understand and explain the administrative strategies required to be used in the population education projects in Formal and Non-Formal Sectors.

1. WHAT IS MANAGEMENT

The world Management has a variety of meanings. Some of the theorists of management define it as an art and/the other contend that it is a science. Management is sometimes defined as “a distinct process consisting of activities of planning, organizing, actuating, and controlling”. Reformed to determine and accomplish started objections by the use of human beings and other sources. According to another definition “Management is the art of getting things done through other people”. Managers achieve the project/programmes objectives by arranging for others to do things, not by performing all the tasks by themselves. That is, the managers do not do the same things as other employees - at least not regularly.

The manager's tasks include making good use of the enterprise's human resources. Thus, managers are always busy with the development of skills, knowledge and the potential of employees.

The other managerial tasks are those designed to make the most effective use of the enterprises financial, material, and indeational resources. These tasks include planning and decision making, building and developing the organization, and creating and monitoring control systems.

1.1 *Art versus Science*

Management encompasses both science and art. In designing and constructing plans and products, management must draw, if befitting concepts and techniques from technology, physical science and behavioural sciences. Nonetheless, management is not all science. Although we often come across “Scientific management” or “management science”, in handling people and managing organizations, intuition and subjective judgment can also play important role. The science portion of management is expanding, more and more decisions can be analysed and programmed according to qualitative techniques. But although the artistic side of management may be declining in its proportion of the whole process, it will remain a central and critical portion of the job of a manager. It may be reiterated that knowledge (science) without skill (art) is useless, or dangerous, and, skill (art) without knowledge (Science) means stagnancy and inability to pass on learning.

Like the physician, the manager is a practitioner. As the former benefits from basic sciences of Chemistry, Biology and Physiology similarly a manager draws on the sciences of Mathematics, Psychology and Sociology. Like the doctor, the manager does not find all his answers in science. They do not tell him everything he needs to know and he cannot wait until they do so. He must act now. He must, therefore, go beyond what is known with certainty to what is only

hazily perceived. Every practitioner draws on science and then makes an act of faith by leaping into the unknown, not blindly and incautiously, but leaping nonetheless.

1.2 The Importance of Management

For enterprises to survive, they must achieve their objectives. All enterprises are responsible to certain groups, such as stockholders for their survival. The manager is the link to these groups. The manager guides the enterprise, especially in times of trouble. Some writers feel that the management is unnecessary -that the employees themselves can do the work of management. But the historians and social scientists have yet to find an enterprise that survived very long without developing an hierarchy of management.

Some argue that affective and efficient management is the key difference between the success and failure of an enterprise. Some securities analysts attribute major differences in stock prices to the skills of managers. Joseph Schumpeter referred to management and entrepreneurs as the “engine of growth”. According to Peter Drucker, management is the life-giving organ of the enterprise's body. To him, management provides the critical difference between success and failure of a task when it performs its four key tasks:

- i) achieving economic performance
- ii) creating productive work
- iii) managing the social impact and responsibilities of a business and
- iv) managing the time dimension.

Jacques Servan and Schreiber believe that American multinational corporations have overpowered European business because of the superior skills of American management.

Without managers, it is difficult to get managerial tasks performed effectively. Because management contributes to the success of an enterprise in a crucial and important way.

1.3 Functions of Management

One very important contributions of administrative theorists is the study of management as a set of functions. Fayol an early advocate of this approach, said that the best way to understand an organization is to study its administrative apparatus - its management. He recognized planning, organizing, training, commanding and coordinating as important functions of administration. The management process has universal application. It represents the common fabrics

of managers and expedites the study of management.

In 1936, Gulick coined POSDCORB as an acronym to describe his list of important management functions. These letters stand for Planning, Organizing, Staff, Directing, Coordinating, Reporting and Budgeting. Some other experts have new lists organized around the management functions as their idea of the definition of administration or management. One can select whichever list he prefers, but regardless of his choice of function it is clear that the study of organizations through an analysis of management function is important.

The overall responsibility for decision making process encompasses the following managerial functions:

i) Planning:

Planning is a fundamental and necessary function of management. The process of establishing organization goals and a strategy for their accomplishment is known as the planning function. It is concerned with the immediate and/or long range activities level. Middle and operational management planning stems from the goals (i.e. the plan) set by the top management.

ii) Organizing

Once the goals and strategies have been formulated, organization makes things happen as planned. This is an operational function and is concerned with the coordination effort of the entire organization.

iii) Directing

This is the motivational function. An organized effort requires complete cooperation. And in directing operations management seeks to obtain a high level of production through motivation and proper guidance of the workers.

iv) Controlling

The control function monitors the achievement of goals and compares actual results with those projected in planning as well actual performance in the past. It is directly related to the plans and performance standards established by other managerial functions.

v) Staffing

This is the process of finding right person for right job. It involves

matching qualifications and experiences with job specifications. Staffing is an on-going function because once a position is filled, performance must be evaluated and employee's growth be encouraged. Further, the chain of promotions, retirements, resignations, and terminations is perpetual and requires continuous staffing.

vi) Innovating

This is a creative function. Changes in times require new approaches and advancement in technology demands new procedures. Finding new and better ways to the job, handling the staff and getting additional money are only some of the creative tasks that managers deal with.

1.4 Key Characteristics to the Understanding of Management

Some of the characteristics of management are summerized below:-

1. Management is purposeful

Management deals with the achievement of something specific, expressed as an objective or goal. Management success is commonly measured by the extent to which objectives are achieved.

2. Management makes things happen:

Managers focus their attention on bringing about successful action. They known where to start, what to do to keep things moving, and how to follow through successful managers have an argue for accomplishment. The management member gets along with people by not only linking them but also being firm, help and expecting the best.

3. Management: This is an activity. It is not a person or group of persons.

4. Management: is accomplished by, with and through the efforts of others.

5. Management: is usually associated with the efforts of group or an individual's efforts.

6. Management is intangible:

It has called the unseen force, its presence is evidenced by the results of its efforts-orderliness, enthusiastic employees, buoyant spirit and adequate work output. In some instances, the identity of management is brought into focus by its absence or by the presence of its direct opposite the

mismanagement. The result of mismanagement is clear.

7. **Management:** is aided, but not replaced by the computer. The computer being a powerful tool can wider a Managers vision by supplying more and fast information for decision matter.
8. **Management:** is an outstanding means for exerting real impact on human life. A Manager can do much to improve the work environment, to stimulate people to do better things and to make favourable actions taken please.

2. MANAGEMENT AND POPULATION EDUCATION PROGRAMMES

In the area of population projects, a sound preparation for management includes:-

1. A systematic understanding of population dynamics and fertility behaviour demographic characteristics and the efficacy of various approaches and methods for manipulating these phenomena.
2. A well-rounded knowledge of various approaches and techniques of management related to population education and proficiency in the use to handle population problems. This knowledge and proficiency is not worth much if it is not combined with an ability to match the management approach to the needs of the programme or the organization.
3. Development of culturally appropriate interpersonal, organizational, and psychologically effective behaviour and skills. These include such matters as manners and conduct for relating with peers, superiors, and subordinates; inter organizational protocols; bargaining and negotiating skills; mode of expressing authority and exercise of power, distribution of reinforcers; development of loyalty; encouragement of creativity and similar other matters.
4. A systematic understanding of the behavioural characteristics as well as functionality of various managerial role models, (e.g. entrepreneurial manager, maintenance manager, change agent, task oriented manager, employee oriented manager, pyramid climber), and one's own personal inclination.

2.1 Management Problems and Issues

A number of project review and evaluation have shown that many population education programmes are not realizing intended goals and objectives because of their failure to implement required activities properly. Mainly, it has been observed that the root cause of these problems is poor management.

The following management problems relating, to population education have been identified as the most crucial with regard to the successful implementation of population education programme:-

1. In some Asian countries, programmes in population education are lagging behind in the realization of project objectives partly because the organizational structure do not correspond with the programme related activities. The management units of these programme usually contains a very small number of personnel and must rely on the various other units of the ministry to implement its activities. Some of these units are even run by part-time personnel and they are not given sufficient authority influence and budget to run an efficient population education programme.
2. Project reviews have also revealed that even after the approval of external funding support of the much needed necessary facilities, equipment and staff are not always made available. As a result, there is delay in the implementation of project activities. One of the reasons for this is the lack of experience by population education staff in the selection and procurement of equipment from abroad.
3. Many of the people appointed as population education programme/ project directors are often times specialists in certain disciplines or experts in certain components of programme operation. Although they may have some experience in planning and management in general, but very often they lack formal training in scientific planning and management of population education. This is also accompanied by a quick replacement of both project directors and personnel for un-necessary persons. Moreover, some countries though have delicated areas of responsibilities or programme components such as planning curriculum development, training, research and evaluation, and documentation, there is problem of providing the staff with the necessary expertise and skills.
4. There exists a proliferation of agencies or ministries which appear to compete with each other as coordinating bodies for population

education programmes. As a result, there is over-lapping and confusion with regard to the activities of these programmes.

5. Though national authorities of Asian countries are generally committed to their population education programme, they have limited resources to institutionalize them. They find it difficult to match or develop equations between policy statement and operational level demands because of resource constraints, consequently, population education programmes tend to suffer in these cases where re-allocation of budgetary provisions become necessary.
6. Another problem relating to the management of population education is the inputs to the programme by personnel from Universities and other similar institutions. Very often, these personnel are experts in the areas of their own specialization but are unable to meet the demands of population education projects.
7. There is a time lag between the availability of population data and its dissemination among the project/programme personnel and to the clients.
8. Management of external inputs, including technical assistance, training, equipment and funds is further complicating the problem. Besides logistic problems the techno-social know-how of the consultations which is required for the job has often been found to be either involvement or lower than their local counterparts

3. POPULATION EDUCATION PROJECTS AND PROGRAMMES

The quality of management is a significant factor in the performance/success of any programme. In the field of population education it is more so. Many projects/programmes around the world got success or failure due to the quality of their management. Since 1970, population education has been introduced in many countries of the third world. The planning, development and implementation of population education programmes took place in the absence of any previous models which could be used as examples. Also, the management and the personnel working in population education had limited experience in running and managing population education programmes.

This is why the concerned government authorities and funding agencies and executing bodies attribute the failures of the projects to poor management.

It has been observed that most of the programme managers have a vague concept of management. This is partly because many project managers are expert in their respective areas of social science, e.g., social sciences and they have varied formal training in the science and the art of management.

Reviews of population education programmes have further revealed that many population education programmes manager were not achieving intended goals and objectivities due to the failure to implement required activities properly.

3.1 Experiences and Lessons Learned From the Population Education Projects

Analysis of population education programmes has shown that most of the projects have the following elements:-

- a) The initiation of the population education programmes;
- b) Curriculum and material development,
- c) In-service training of teacher,
- d) Pre-service .training of teachers,
- e) Programme management,
- i) Monitoring population education programme progress and improving their quality, and
- g) Integration with the school programme.

Within each of these seven elements, countries have made decisions on a series of basic issues. These decisions vary from country to country, depending upon ideological, social, cultural and political climate of each country. To start the programme, for example, countries decide in which grade/grades and subject(s) the curriculum be developed.

Similarly decisions on each of the seven elements have been made by the countries concerned, keeping in view their particular circumstances and needs. In the case of element curriculum and material development, three approaches to curriculum development have been adopted, namely:-

- i) separate lesson approach;
- ii) infusion approach; and
- iiij) separate subject approach.

Each country has adopted its own approach.

3.2 Coordination Strategies of Population Education Programmes

In order to strengthen and coordinate the population education programmes, and to develop linkages among and between the formal and non-formal education programmes, following major areas have been identified.

1. Formal Education Programmes

In the formal education programme these problems/ strategies include:-

- a) interest and commitment of decision-makers;
- b) degree of coherence and the continuity of population education concepts at different levels of school education;
- c) coordination between the population education programme of the schools and pre-services teacher-training institutions;
- d) gap between in-service training and teaching;
- e) coordination at different levels within the project;
- f) variation/dichotomy between different types of schools;
and
- g) promotion of research and utilization of research findings.

3.3 Non-formal Population Education Programmes

- a) inter-sectoral policies and objectives for the promotion of population education;
- b) promotion of interest in and commitment to population education programmes among decision-makers and key personnel;
- c) roles and functions of participating and coordinating agencies;
- d) programme coordination vis-a-vis programme implementation;
- e) overlapping of services and wastage of resources;
- f) mechanism to ensure wider participation for developing need based inter-sectoral programmes on population education.
- g) coordination mechanisms for resource and information sharing;
and
- h) inconsistency of population education messages.

3.4 Non-formal and Formal Population Education Programmes

In both the formal and non-formal population education programmes, the following coordination strategies are proposed:-

- i) clear policy statements;
- ii) interest in and commitment to population education policy programmes;
- iii) coordination at different levels-nation to local;
- iv) competition for financial resources;
- v) complementarity in content and approach;
- vi) exchange of information and material.

4. MANAGING DEVELOPMENT ISSUES

The issues of management may be divided into two broad groups:-

- i) Issues related to the definition and description of the management of the programme, and
- ii) Issues pertaining to strategies for achieving improved management.

The modern techniques of managements are largely responsible for bringing respectability to the field of management. But adoption of these techniques is not sufficient for effective management. A sound preparation for management includes the following elements:-

Systematic understanding of issues, concerns, and problems which are to be addressed by the programme. For the manager of a population programme, it means a systematic understanding of population dynamics and fertility behaviour as well as the efficacy of various approaches and methods for manipulating these phenomena.

A well-rounded knowledge of various approaches and techniques of managements, and proficiency in the use of several of these. This knowledge and proficiency is not worth very much if it is not combined with an ability to match the management approach and techniques to the needs of the organization. This is the notion of Appropriate Technology and this concept is more applicable to the field of management than anywhere else. This is so because organizations are social, not mechanical arguments; and therefore, the working of each organisation is heavily influenced by the larger social, economic, politics, and technological

forces in the immediate environment of the organization/ and by the goals, history, size and resources of the organization. Any management approach or technique which is not responsive to these variables is likely to be dysfunctional.

The understanding of the behavioural characteristics as well as functionality of various managerial role models and one's own personal inclination. While the first part of this learning is essentially cognitive, the second part requires insight into one's personality, self-image, and value system. In this comprehensive agenda for teaching of modern techniques management must be given its proper place but this emphasis must not be at the cost of other essential area of management development.

4.1 Characteristics of Population Programmes/Organizations

In order for the organizations /programmes to achieve their goals, the following characteristics are essential:-

All organizations should be open systems, that is, they should constantly interact with their environment. Since such interaction is critical for the survival and growth of an organization, an absolutely essential managerial task involves developing, maintaining, and enhancing the environmental support to the organization.

Organizations are social systems with purpose, that is, organizations brought into being to achieve certain goals and purposes. However, these goals and purposes are neither predestined nor fixed: they evolve and are revised by the parties behaving an interest in the organization. In the population field, these parties include the government of the country, social and religious organizations, professional bodies, research and training organizations, employees and trade unions, and past and potential consumers of population/family planning services. Each of these interest-groups may not only desire different things from the organizations, but may also assert its authority and power to impose its own will on the organization. The resultant power struggle often consumes a great deal of organizational energy which could otherwise be used for the performance of some other activity. But difference and conflicts among the organizational interest groups are not always dysfunctional; in fact, within the bounds of reasons and decency, they serve a useful purpose by forcing re-examination of assumptions, information, and alternatives. A second important management task, therefore, is to ensure that interest-groups interactions remain creative and productive, and do not degenerate into power struggles.

To reflect and accommodate the interest and concerns of multiple interest groups, organizations' tend to adopt multiple goals. Often these goals are not congruent with each other; at times they may even be contradictory. Since, it is

usually not possible to achieve all goals in equal degrees, a third important managerial task is that of assigning operational priority to these goals and doing so without alienating any interest group.

Organizations, like-organisms, go through various stages of growth. At each stage, needs are somewhat different. To recognize and respond to these changing needs is another important managerial task.

No organization is totally autonomous. All organizations are subject to a certain degree of interdependency. These interdependencies may be vertical, lateral, or both. These interdependencies serve both as constraints as well as potentials for help and resistance. Recognition of these interdependencies and utilization of these linkages to help achieve the goals of one's organization is yet another important managerial task.

Organizations differ in their attractiveness and this characteristic has a large impact on external relations as well as on the internal workings of the organization. Developing an appropriate degree and type of organizational attractiveness with the help of appropriate symbols and behaviour is another important managerial task.

SELF ASSESSMENT QUESTIONS-I

In the following statements, encircle the letter “T” if the statement is true, and “F” if it is false/wrong.

i)	A manager implements and- controls programmes	T	F
ii)	The most important function of management is controlling.	T	F
iii)	Established organizations set new goals every year.	T	F
iv)	Individuals should be held responsible only for those activities over which they exercise authority.	T	F
v)	Management is both a Science and an Art.	T	F
vi)	A manager has to perform most of the functions himself.	T	F
vii)	Good management is the key difference between the success and failure of programme	T	F

KEY - SELF-ASSESSMENT QUESTIONS-I

(i)	T	(ii)	F	(iii)	F
(iv)	T	(v)	T	(vi)	F
(vii)	T				

SELF-ASSESSMENT QUESTIONS-II

i)	Some of the programmes in population education lag behind in the attainment of their objectives because of structural weakness of the Project organization	T	F
ii)	The success of population education programmes is affected due to part time managerial staff.	T	F
iii)	One reason for delay in the implementation of approved project is the lack of experience of the project staff.	T	F
iv)	The only reason for management problems in population education projects is the lack of the project staff.	T	F
v)	The management problems arise due to the lack of agencies or ministries to work as coordinating bodies.	T	F
vi)	One of the management problems is the lack of dissemination facilities for population data.	T	F
vii)	The technical level of consultants vis a vis the local staff does not pose any problems of management.	T	F

KEY - SELF -ASSESSMENT QUESTIONS-II

i)	T	(ii)	T	(iii)	T		
(iv)	F	(v)	F	(vi)	T	(vii)	F

SELF-ASSESSMENT QUESTIONS-III

Q. No. 1	Define Management. Is management an Art or a Science? Give arguments in support of your answer.
Q. No.2	What are the tasks performed by a manager. List various tasks identified by scholars of the field and select the one relevant to your own organization.
Q.No.3	Discuss importance of management in population education programmes.
Q. No. 4	What are key characteristics of management? Give the functions of management.
Q. No. 5	Describe management problems faced by population education programmes.
Q. No. 6	Discuss some of the common elements of population education projects in the Asian Region.
Q. No.7	How can coordination be achieved in population education programmes through formal and non-formal systems?
Q. No.8	Describe issues and problems faced by most of the population education projects.

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TRAINING OF PERSONNEL

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CONTENTS

	Page
Introduction	294
Objectives	294
1. Introduction: Need for training in Population Education	295
2. Methods of Education/Training Programmes	296
3. Organizing Training Programmes	307
4. Evaluating Training	312
5. Summary	315
6. Self Assessment	316
7. Answers to Self Assessment	319
8. References	320

INTRODUCTION

Training plays a very important role, in doing any task. Although people learn by trial and error and finally reach closer to the right path but appropriate training saves time and resources, enhances chances of success and increases quality of output. Imparting population education and handling activities in this area require specific theoretical and practical training. Teachers, workers, managers, administrators, planners in educating need intensive training and there can hardly be contradicting opinions in this connection. In this unit you will study the need, importance, methods and approaches to, training programmes. Evaluating training programmes has also been included in the end which would certainly be useful. The whole material has been written with an ultimate aim of development, the required understanding skill and attitude to deal with population education activities.

OBJECTIVES

After studying this unit, you should be able to:

1. Appreciate the need for training in the area of population education.
2. Understand the concept of inquiry approach and its use in population education.
3. Describe the role of a teacher in the teaching of inquiry approach to the learner.
4. Explain the meaning, nature and purpose of values.
5. Realize the importance of value clarification as a teaching method for population education.
6. Comprehend the nature of various kinds of training programmes related to population education.
7. Acquire basic knowledge concerning the organization of training programmes for population education.
8. Understand the role of evaluation in population education programmes.

1. NEED FOR TRAINING IN POPULATION EDUCATION

Several countries of Asia started family planning programmes in late fifties and early sixties to curb unwanted population growth. Many of these programmes relied upon information-education-communication component of the programmes. Hence mass media became a popular strategy to convey the idea that small family brings happiness and prosperity. Main purpose of this information dissemination activity, in this narrow sense of population education, was to create awareness of possibility of controlling the number and frequency of births by means of various counter-captive techniques.

Unfortunately, these programmes have not been successful. This lack of success may be attributed to such factors as the high level of illiteracy among the people, the low status of women, social and religious preferences and the absence of any system of social security. In any case, it has been increasingly recognized that the programmes of information-education-communication addressed to adults on simplistic basis are not sufficient. Adults programmes should have a strong component of education, but at the same time it is necessary to provide relevant education for the child of today who will be the adult of tomorrow.

In most Asian countries, children under 15 years of age constitute a large percent of their population. These young people constitute the adult population in the next few decades and their behaviour and attitude towards family size will be of central importance in determining population growth. They need to become aware of the problems caused by population pressure for individual, the nation, and the world, and to be provided with an education that would enable them to make informed decisions about population issues. To do so, it seems that a combination of various stages and approaches are desirable. And population education is one of those strategies that could be very effective in bringing about attitudinal change towards population education. As to what kind of population education will be most effective for them is still not clear. However there is an immediate problem of trained personnel and related material in the area of population education.

As a result of the recognition that education is an important instrument for bringing about change in attitude and behaviour many countries in the Asian region have taken an interest in developing population education programmes. And interest of various governments in training programmes for the workers and teachers of population education is necessary extension of this recognition.

Teachers and workers of population education are in a way agent of educational change. Unless they perform their role effectively, population education may slow down and may not get properly integrated with other developmental activities of a country. So, it is important that these teachers and

workers do a good job in relation to the tasks assigned to them.

Fortunately, some countries have fairly developed expertise in the areas of population education and they have professionalized their population related activities. And in other countries there is a need to help workers in the area of population education and to get them acquainted with those professional techniques which are likely to help them do their job in a better way.

The following types of social developments have posed challenges to population education planner and administrator: broadening of the concepts related to population education and evolving new systems of education for them, growing unemployment in the world, increased awareness in the public about the need for population education and the lack of directions to them in this area of awareness, growing rate of psychological problems and the felt need for more health related facilities. Because of the nature of the system in which they work, the population education teachers and workers are in a unique position to respond to these challenges by equipping themselves with the capabilities required to deal with these challenges. Some training technology is available in this regard and more appropriate training technology need to be developed.

2. METHODS OF EDUCATION/TRAINING PROGRAMS AN INQUIRY/DISCOVERY APPROACH

In schools, population education is aimed at influencing the student's attitudes and behaviour toward problems and issues and it is taken for granted that the subject matter is controversial.

These two considerations necessitate developing in a student (or out-of-individual) the skills for making responsible decisions about the controversial issue of his reproductive behaviour. In making responsible decisions, the student has to have complete information concerning an issue. And only through an analysis of the pros and cons and exploration of alternative actions the student can arrive at a responsible decision.

Given this objective and the controversial nature of the subject matter, it is obvious that the teaching method appropriate to population education cannot be one in which the teacher is a dictator in his style. Rather, the ideal teaching method should present and evaluate plausible alternatives in terms of the advantages and disadvantages associated with each. In short, what the population education programme aims to develop in the type of student who can freely make responsible decisions, rather than one who will, automatically and unthinkingly, decide on a small family.

The programme aims to develop the type of population education teacher

or worker who can observe, describe, predict and understand what changes in population mean: what is the effect on the family of having few or many children; what is the effect on society of having many more younger people than older people in the population; what affects the growth of population more birth rates or death rates, etc.

1. What is the inquiry approach?

The inquiry approach is a teaching style where the learner, with the minimum guidance from the teacher seeks to discover and create an answer to a recognized problem acquire, they also gain experience that help them to learn how to learn. For example, instead of listening to an authority on the advantages and disadvantages of having few children, the learners themselves are guided to probe the issue of family size.

2. It is conceptual instead of factual.

The inquiry approach is built around basic concepts and generalizations. Instead of merely enumerating the beliefs, values and practices of a group of individuals concerning family size, the students themselves examine systematically the beliefs, values and practices in their own communities that favour a large family. Afterwards, they evaluate what they have gathered.

3. It is student-centered

The student plays a more important role in the inquiry approach as compares to his role in the expository approach. He works cooperatively with the teacher in exploring the various facts of the problem instead of merely listening to the teacher about it. The student does the actual investigation while the teacher serves as a facilitator providing assistance only when required.

4. It requires action

The inquiry approach views the student as active mover of the things as opposed to passive recipient of commands. The student actively participates in the entire learning sequence. In this process, he is trained to become not only an independent learner but a critical thinker as well.

5. It uses content not as an end but as a mean to attain other important purposes

In the inquiry approach, the processes he goes through help him to

develop his learning skills. He becomes more critical. He learns to probe issues, to analyse and to discriminate and to make decisions on alternatives.

Inquiry is not the discovery of an answer that is picked from a book, but rather, the development of an answer or solution by the learner himself based on the result of his search and investigations. This means that in his search for right answer or reply to a felt question, the student thinks over several sources of pertinent data, organizes and analyzes the information, concludes and decides on the best possible solution. Briefly speaking, the inquiry approach means getting answers to questions through the collection and analysis of information.

The primary goal of the inquiry approach, according to one prominent authority, is “to provide the students a sense of efficacy, i.e. the belief that they have the skills to look critically at their environment and to a large measure, control their own destiny and influence the decisions affecting them.” This involves more than simply knowing where to get the needed data. It requires also an attitude of curiosity, the ability to evaluate and analyze a problem and the ability to use information and observations in validating the conclusion. Thus, the inquiry approach aims at developing in the learners those skills, values, attitudes and knowledge that will enable them to think critically so that they may become independent problem solvers. If the learners are trained to recognize important problems in their environment and suggest plausible solutions, it is hoped that they will grow into reasonably adults.

Some outstanding characteristics of the inquiry approach identified in the literature are:

6. It is more effective

It is more effective than the traditional expository approach in terms of bringing about learning in stimulating critical thinking and more active participation and in developing in students, a favourable attitude towards the subject matter and other related things.

Values Clarification as a Teaching Method

Population education is controversial and value-laden. Such population issues as when to marry, where to live, what occupation to engage in, when to have the first child and how many children to have involve values options. People attach differing values to and there are also other many larger ethical issues that have to be considered in the proper implementation of population education programmes.

1) Freedom:

An important ethical issue in population education is related to freedom. Some people believe that freedom to procreate, should not be dictated. The Declaration of the 1968 United Nations International Conference on Human Rights guarantees this. It states that "... couples have a basic human right to decide freely and responsibly on the number and spacing of their children and the right to adequate education and information in this respect". However, freedom to have children has to be viewed in relation to human desire to enjoy a decent quality of life. A World Bank survey estimated that for the total world population of about 4,000 million in 1975, 570 million were undernourished. 800 million adults were illiterate. 250 million children were not enrolled in school, 1,500 million children had no access to effective medical care, 1,300 million had less than US \$ 90.00 income per year, 1,700 million had a life expectancy below 60 years, and 1,030 million had inadequate housing. At the same time, others believe that freedom to have as many children as one wants will limit man's ability in agriculture, employment and enjoyment of recreational facilities. This camp also contends that explosive population growth would mean giving free hand to noise, congestion and environmental deterioration.

2) Economic Development

In Asia, children are important assets for families, especially in agricultural communities. In many cottage industries, children are engaged in earning extra income for their family. Likewise, the reliance on children as security for old age is very common in most Asian countries. Many argue that when a child is born, he is equipped with all the necessary tools to earn his living so it is not just for us to object to his coming to the world.

Some also contend that children are economic liabilities. They justify their proposition on the basis of what they spend on food, clothing and education, while raising children. In extreme cases, in some western communities, a choice is made between having an additional child or buying a second car.

3) Politics

Family planning and population regulation efforts have been looked upon as a systematic ways of reducing the population various ethnic groups. There are also fears arising from the fact that population regulation may

ultimately reduce a country's manpower relative to another, especially for the purpose of defence.

4) Distributive Justice:

There is also the ethical issue of who should bear the burden of reducing family size. Some people think that only the financially poor and genetically inferior (including those with a low intelligence quotient should not have more children) should be told to reduce the number of their children. In other words, those who can afford to, can have as many children as they want in fact, this group thinks that the highly intelligent, handsome and beautiful should in fact procreate more for the sake of improving their race.

On the other hand, there is another group who thinks that the burden of reducing family size is the responsibility of all rich or poor, intelligent or dull and beautiful or ugly.

5) Population Education

Making people adopt measures for limiting family size is not easy considering all the above issues and dominant familial values. Population control programmes that have an element of disguised coercion in any form have a scant chance of becoming effective. A longer lasting and more effective way of regulating population growth is through a reorientation of values and attitudes - particularly of the young, who will be the parents of tomorrow. This can be done through education. Education thus views population, not as a problem to be solved, but as a phenomenon to be understood. It cannot prescribe solutions which might violate people's beliefs and values. In teaching population education hence, a special strategy is needed.

Values Clarification:

The basic assumption of a value-fair population situation is that there are no decisions or actions which are by nature "right" or "wrong". So, it is the task of the educator to provide content (both factual information and information relating to different value positions) which will enable a learner to evaluate the range of options relating to a given population issue.

The educator's obligation is to present content in a value fair manner, to make clear the reasons for his own opinions and encourage other positions to be developed and defended; it is the learner's responsibility to ascertain their own positions, make their decisions and determine their actions. As long as their

judgments are arrived at by a process of conscious and informed evaluation and decision-making which takes into account personal and social consequences, their attitudes, decisions and actions will no way be pre-ordained. (UNESCO)

Research has shown that through value clarification, learners have acquired the ability, to use both rational thinking and emotional awareness and to examine their personal and social values. Besides, they have also learned the skills to resolve value conflicts and to act according to their value positions and choices.

According to Simon, Howe and Kirschenbaum, value clarification is designed to engage students and teachers in the active formulation and examination of values. It is not to teach a particular set of values. There is not sermonizing or moralizing. The goal is to involve students in practical experiences, making them aware of their own feelings, their own ideas, their own beliefs, so that the choices and decisions they make are conscious and deliberate and are based on their own value systems.

Some Elements of Values Clarification:

1) Cognitive Vs. Effective Approach:

Some value clarification strategies emphasize the affective process, based on the premise that values are more easily developed subjectively and through empathy. Other strategies stress the cognitive process, as values are considered products of thinking rather than feeling.

2) Student-Teacher Involvement:

Different degrees of student-teacher involvement can be used with the values clarification approach. Some strategies are better facilitated if the students discover their values by themselves, without any help from the teacher. Other strategies require minimum teacher participation to facilitate implementation of major activities by the students.

Another strategy has a greater degree of teacher participation. In such a strategy the teacher tries to create conditions which will encourage students to identify issues; clarify, probe, and if possible, resolve conflicting ideas and opinions, A group of experts have identified the following set of principle as guidelines for the population education teachers.

- 1) View yourself as a facilitator of learning rather than expert on values.
- 2) Before using a value clarification activity with your students take time to go through it carefully. Then, if possible, test it with a small group before

- using the activity with a large group
- 3) Establish rapport with the group and create a climate in which individuals feel safe to explore their values. A classroom atmosphere of openness, trust, honesty and acceptance as well as respect for others should prevail.
 - 4) Emphasize this basic ground rules of value clarification: people are to share only what they feel comfortable in sharing. Whenever students do not want to respond, they should be allowed to do so. It should also be stressed that there are no wrong answers.
 - 5) Encourage students to strive to listen to and; understand one another and not to moralize or criticize one another.
 - 6) Participate in the exercises and discussions whenever possible. Be aware of your value biases and do not impose your values on others in other words, be non judgmental.
 - 7) Ask questions that are likely to explore values effectively.

Other Methods of Teaching

Symposium:

The symposium is a combination of the lecture and discussion methods, it requires, on one hand, a number of speakers who give an oral presentation of a certain topic each speaker taking one of its -aspects or expressing a different point of view. On the-other hand, it requires the presence of a number of listeners who follow the presentation and at the end participate in discussions by asking questions. Symposia are widely used in almost the programmes of adult education in the Asian Countries. They are important for population education programmes.

Organizing successfully symposia requires a good deal of preparation. This involves the selection of moderator and speakers, contacting them and securing their agreement to participate, bringing them together before convening the symposium in order to know each other and agree about procedure to make necessary arrangements.

Role-Playing:

Role-playing implies a dramatic situation in which the learner is asked to play the role of a person who holds a different or even opposite belief or system of values. By identifying himself with that person, the learner will have to fact in internalize his feelings, appreciate his desires and aspirations, and understand the motives behind his behaviour. Thus, the learners, attitudes towards that person change. Exposing him later to facts and information, the changes will be reinforced.

This method requires time, money, and well-trained personnel. Perhaps this is why it is not used as frequently as other methods.

Demonstrations:

Demonstrations are used when the aim is to teach a new technique, method, or way of doing things; e.g. the introduction of a new technique in combating population related attitudes of people. In such cases, the learning situation is so much complicated that language alone will not suffice in dealing all its elements. There are machines, materials, and instruments which are new to the learner. There are also processes which have to take place in a certain order. Finally, there are the principles and functions which lie underneath those elements and which have to be learned in order to complete the task successfully. For all these reasons, the instructor performs the task before the learners and calls their attention to the step involved. Meanwhile, he takes every care to enable them, through explanation and discussion, to understand each step, how it is performed, and why it is performed in that way.

Practical Training:

Practical training is usually used when the aim is the acquisition and development of practical skills. He must perform the task a number of times under guidance until he becomes skilful in doing it.

The nature and use of practical training varies with the importance given by the programme to the development of practical abilities and skills. In a programme such as vocational training, where the development of vocational skills is a major objective, such method is the basis of the programme. In a programme such as population education or functional literacy, practical training is used as frequently as other methods. It should be added that more adult education programmes are now adopting some sorts of practical training as a means of meeting the demands of development and technological changes.

Pre-Service Training Programmes

Pre-service teacher education equips the entrant with the preliminary orientation and skills required for a satisfactory performance in an occupational role. It is, therefore, geared to the academic and professional needs of the “recruit”, and the level of a programme correspond to the stage of the education system at which such initiation is sought, i.e. senior secondary, undergraduate, post-graduate or research.

Traditionally, pre-service teacher education has been long-term and institution-based and has tended to rely on formal programmes. In the Asian region such institutionalization has imposed a rigidity of structure which has isolated pre-service educational institutions from the mainstream of the

educational reforms that have contributed to the overhauling of other units of the education system. The trend has been for educational administrators to by-pass these institutions and to utilize the more flexible and quicker mode of short-term in-service teacher education programmes to meet changing social and educational needs.

This trend has been particularly marked in the field of population education. As a new curriculum area, which educators have hoped to introduce extensively into the curriculum, the content and methodology of population education has to reach a large number of teachers as quickly as possible. Educational administrators have generally preferred to organize in-service programmes within the ambit of the Ministry of Education at Curriculum Development Centres, National Research Centres or special teacher local centres to meet this need and consequently pre-service teacher education programmes remain largely undeveloped.

A few countries such as the Philippines and India have, however, made some progress in incorporating population education within the programmes of pre-service teacher education institutions. It is also increasingly recognized now that higher priority should be given to pre-service programmes since they will initiate new entrants to the profession into this field and will continue to be on-going programmes even if the original impetus is lost and enthusiasm diminishes.

In- Service Training Programmes

Introduction:

Any new curricular programme that is to be introduced into the educational system extensively and within a short period of time immediately brings to the forefront the issue of in-service training. Most Asian countries have introduced population education with a great sense of urgency, and they are committed to its diffusion on a nation-wide scale. This task requires for its successful realization the support of school administrators and the participation of a large mass of teachers, who have to be trained essentially through in-service training programmes, as the flow of teachers into the educational system through pre-service programmes is necessarily a slow process.

A number of target groups needing orientation/training the area of population education are listed below and the requirements in this regard are indicated. By an orientation programme is meant a less rigorous programme, both from the point of view of the duration of the programme and its depth, than a training programme.

Target Groups

Categories Needing Orientation

1. Administrators such as Presidents or Deans of Universities and Colleges, School administrators such as Superintendents, Education Officers (EDO, DEO, Dy DEO) and Heads of Schools.
2. School supervisors such as subject supervisors and general education supervisors, subject co-ordinators.

Categories Needing Training

1. Population education specialists who will play a leadership role in their country's population education activities;
2. University or college personnel in charge of the training of teachers;
3. High school teachers with responsibility for subject in which population concepts are to be included;
4. Elementary school teachers; middle or junior school teachers.

Need Assessment

The in-service training needs of these various groups should be identified. One method is to survey a representative sample of each target group and to analyze the data obtained.

Another approach in identifying needs is to hold a conference/ workshop with participants from the different target charge of the junior school groups. After a brief orientation to population education, the participants should be able to identify and list their needs and problems related to population education. Some of these needs and problems may be based on their observations and experiences regarding the population situation.

Modalities for in-service Training

Several modalities are presented below for providing population education training needed by various groups. The suggested approaches may require intensive full-time study, a series of short periods of training or a one day training which is in the form of an orientation. The in-service training models presented here are for school heads, supervisors, co-ordinators and teachers. Some modalities of short-term in-service training in population education are as follows:

Model -1 Phased Training Model conducted by the Ministry of Education

- Model – II Structured Training Model conducted by the University or Teacher Education College
- Model III Mobile In-service Training Model.
- Model - IV Correspondence Course Model
- Model - V Mass Media and Self-learning Model
- Model - VI Informal Training Model

If the school programme in population education is to be a well-articulated one in the sense that material included in one subject in a grade is articulated horizontally (with the material included in other subject in the same grade) and vertically (with the lower and upper grades), care must be taken to see that teachers are trained and deployed in such a manner that the intended articulation is maintained and that there are no discontinuities that would tend to nullify it.

Distance Training

The traditional methods of in-service training through short term programmes, seminars and workshops are extremely inadequate in view of the size and distribution of population education students and managers needing training. Because of this it has been found that distance teaching modality holds out the most promising solution to this problem.

Distance teaching introduces the practice of self-learning. It is an effective mechanism for both in-service training and professional growth of educational personnel. Its advantages lie in its economy (with less costs and more people can be covered), coverage (a large number of people can be covered simultaneously over a short period of time), its characteristic of continuing learning on the job without disturbing the job, the possibilities of reaching distant comers of a country and the scope for the learner to work at his own pace.

While the advantages of distance teaching are many. In order to cash on the advantages a lot of effort is required for preparing distance teaching material. Poorly prepared distance teaching materials, inadequate attention paid to organizational aspects, lack of supplementary training efforts like contact sessions and lack of organizational support for the learners from their own organizations may come in the way of achievement of the desired objectives.

3. ORGANIZING TRAINING PROGRAMMES

The Purpose of Training

From an operational view, it is useful to realize that whereas education aims at preparing a person generally for successful living in the society of which he belongs, training strives to prepare a person to carry out a specific set of tasks in relation to particular occupation. It is a specialized and practical form of education in that it prepares the trainee to do a job well. In other words, training exists to bring about learning leading to effective job performance.

Properly conducted training in population education not only improves performance but also increases the motivation and confidence of the population education trainee. Through a series of learning activities within a training programme, the trainee is expected to manifest better understanding of the tasks to be performed, and thereby increase the efficiency and quality of his work. Thus, his behaviour is intended to be modified by means of the training process. As a result of participation in a training programme, goal-directed learning is expected to take place.

Facilitating a trainee's job-specific behaviour is the essential task for a training programme designer. To achieve this goal, it is necessary that training should be well planned.

Conditions for learning should not be taught of as being only physical. They are, above all, psychological and social. One important psychological condition is the existence of motivation to learn. The trainees need to be motivated to respond to appropriate training stimuli. Without strong motivation, learning can hardly take place. Another important learning condition is the opportunity to apply what is learned. Since most training programmes are essentially action or performance oriented, the trainees should find themselves constantly verifying, applying checking and experimenting with the principles or skills that are learned. By means of simulation and similar exercises meaningful participation should be frequently encouraged. In addition, the trainees should have opportunity for immediate feedback, another important condition to enhance learning. Then there is the fact that now two individuals are alike; each one has his own individual characteristics. This brings out the need for another learning condition: a programme that is flexible and takes account of individual differences among the trainees.

How do People Learn?

The training designer should have a good working concept of how learning takes place, for only then will he be able to carry out his task effectively?

Learning is a process by which an individual through his/her own activity changes in behaviour. This changes in behaviour may be a change in knowledge, understandings, attitudes, skills, appreciation etc.

Psychological research shows that successful learning place when:

- a) there is a need for learning;
- b) what is to be learned is meaningful to the learners;
- c) learning involves active participation by the learner;
- d) initial learning is related to what the learner already knows, rather than to what the instructor knows;
- e) when feedback is prompt.

Teaching, therefore, is essentially a process of helping the learners to:

- a) open up new vistas in the life of each individual in a meaningful, personal context;
- b) see why the things to be learned are useful to them;
- c) relate new learning to their previous knowledge;
- d) actively and freely apply what they learn;
- e) get immediate reinforcement.

Briefly stated, the instructor's main task is to create the conditions under which the trainees will have the best opportunity to achieve success in learning. While learning involves work, it should at the same time be a pleasant experience to which every trainee would eagerly look forward.

Developing Training Plans

In the light of the above mentioned considerations, it is therefore imperative that the designer of population training programme establishes effective and efficient conditions for learning, taking Psychological, social and physical factors into consideration. The measure of success on his part is the existence of a comprehensive training pattern aimed at facilitating meaningful learning and on the part of his trainees the development of a pattern of coherent thinking and acting. It is the designer's responsibility to ensure that his trainees are systematically prepared to acquire this pattern

Sequentially, the development of a training plan may be broken down into three rather distinct stages:

- a) preparatory stage;
- b) implementation stage;

- c) evaluating and follow-up stage.

The three stages will constitute a training cycle. It is, therefore, a matter of importance to draw up a coherent plan embracing all three stages. To be precise, each stage of the plan should indicate the types of activities to be performed, by whom, for what purpose, and for how long. This will result in the development of a net work of inter-related activities.

A training plan, to be acceptable, should not only be technically and educationally sound, but it should also be economically feasible. The plan, in the final analysis, also serves as the basis for making a list of training needs. This list should be comprehensive, that is, it should show not only the financial needs but the entire spectrum of other instrumental inputs such as facilities, manpower, and curriculum etc. as well.

Identifying Training Needs

Essentially, the need for training arises only if a discrepancy is noted on anticipated between the present capabilities of persons already performing certain activities or expected to perform some new activities and the level of performance that should be attained by them. The identification of training needs involves firstly an analysis of the competencies required and secondly an assessment of the extent to which these competencies exist. These two exercises provide the basic data for planning training.

Existence of Adequate Institutional Support

A training programme can be effective only if it is adequately supported. The types of support needed are many. One type is technical; others are administrative, personnel, financial infrastructural, social and even political.

The maximum utilization of available non-financial resources; is a matter of great importance. Too often, there is a tendency to think of improving a training programme by first seeking more and more money, whereas the problem is not always financial. By increasing efficiency and by making improvement wherever possible, the training establishment should be able to show improved performance without necessarily consuming more money than before. Staff support in particular needs special attention since many aspects of programme operation depend on the enthusiastic participation of staff members.

Determining Training Objectives

Training objectives are to be derived from the overall objective or goal of teaching population education. Unless it is known what the output should be, it

would be futile to talk about the success or failure of training.

Formulating population training objectives, then is a way of describing the characteristics of the desired output. It is only by using an operational formulation of these objectives that the designer would be able to decide upon performance criteria or measures of success.

Training objectives should be viewed from two points of view, namely that of the trainer and that of the trainee. Consequently, in formulating objectives operationally, the role of each of them needs to be clarified.

Designing Training Programmes

Designing a population training programme is the next logical step after the training objectives are formulated. The programme has to be designed to achieve the objectives that have been decided upon. The programme should be formulated in a manner that will clearly show the three broad areas of concern: the knowledge base, performance skills and attitudes. Depending mainly on the function of each training programme, and the types of people attending it, different types of training programmes should be designed to meet the specific needs of various groups.

It is not possible to execute one standard programme for all types of objectives for all types of people and expect it to be effective at the same time. In fact, it is impossible to design such a training programme. To be effectively, therefore, specific training activities will have to be formulated to ensure that the programme is relevant to a particular situation, for the reason that the training needs for different situations may not be the same. An analysis of the job to be performed provided the basic information for the design of a specific training activity.

On the basis of his knowledge of instructional objectives, the population education training designer has to assess his needs. He has to determine what is to be done by each group of individuals, the trainer (s) and the trainee (s).

What (and what not) to put in the training activity is a question of determining content appropriate for meeting the objectives. Without explicit guidelines, the designer could run the risk of putting in too much or too little content, or fall into the trap of putting in interesting but irrelevant elements.

Training Approaches

No particular training method is superior to all other possible methods. Each one has its own merits strengths and limitations. The desirability of a particular training method (or of a combination of methods) is a question to be

determined in relation to a number of factors:

1. the nature of a specific instructional objectives;
2. the situation in which teaching-learning interaction is to take place;
3. the role which the learner is expected to play in the training process;
4. the extent of support: available in terms of learning, materials and facilities;
5. the level of familiarity and mastery of various methods on the part of the training instructor.

In actual practice, the errors or failure in operationalizing a training programme depend largely on the last mentioned factor. It is not uncommon to see teachers using the same approach for practically all sorts of training objectives, in all kinds of learning situations and with all types of audiences. This tendency may be due to the overall traditional climate that is not conducive to change. Or to the lack of leadership support that encourages the use of new and varied methodologies, or even to the lack of determination on the part of the instructor himself to follow new avenues in the teaching-learning encounter. But more importantly, it could also originate from the lack of knowledge of a great variety of methods.

The wide spectrum of training methods may be categorized in a variety of ways. One useful way of doing this is to make a distinction between:

- a) predominantly teacher-directed methods; and
- b) predominantly student-managed methods.

To be sure, no training method is entirely teacher-directed or student managed. Even in a prepared lecture (as one form of teacher-directed method), it is always possible (and desirable) to outline the role of the student. The application of this approach of specifying the role of both the teacher and the learner for a particular method will aid the training designer to draw up a list of specific activities useful for the proper management and implementation of the training programme. When needed, further refinements could be introduced under the second (student-manager) category as follows:

- a) activities to be performed individually;
- b) activities to be performed in small groups;
- c) activities to be performed in the entire group, indicating further what is to be performed, how and when.

With this type of information in hand, it should be a matter of judgement to decide on the selection and general pattern of the teaching-learning approach to be used. Theoretically and in general terms, the training instructor should be knowledgeable regarding the potential and limitations and on the technical requirements of a variety of methods. In the hands of an inspiring instructor, each method is a new method. He will bring the basic principles to life. It is here that teaching is an art.

4. EVALUATING TRAINING

The following are the relevant questions concerning the evaluation of a training programme:

- Why should to evaluate training?
- For whom should training be evaluated?
- What should be evaluated in training?
- How should training be evaluated?

Answers to these questions will help to plan evaluation more systematically.

Importance of Evaluation

People involved in training want to know whether training has fulfilled the objectives for which it was organized. The following purposes are served by evaluation:

1. Feedback on Effectiveness:

There is a legitimate and genuine interest to know if training has been effective. Those who invest resources in training (the government or other agencies) want to know if the expenditure has been worthwhile; those who invest effort in training (the trainers) are genuinely concerned whether their efforts produced the desired changes; those who receive training (participants) are equally interested in knowing whether training helped them.

2. Feedback for Improvement:

The immediate use of such feedback from evaluation can be helpful in improving many aspects of a training programme.

3. Feedback for Action:

The feedback from evaluation should also help the respective groups or individuals to use it for appropriate action. For example, evaluation may indicate

what the work organization should have done (and in future can do) to make training more effective - both pre-training and post-training action.

4. Feedback for better Control:

The most effective use of feedback from evaluation may be to provide overall control on training as an instrument of change. Evaluation may help in making necessary adjustments to make training more effective.

Clients of Evaluation

There are several partners in the training act and process, and all of them are the clients of evaluation. Their needs for feedback and use of feedback for improvement (control) will naturally be different with some overlapping. There are four main partners in training (and clients for evaluation):

1. The participants or learners.
2. The training organization or institute, including:
 - a. Curriculum planners
 - b. Programme designers
 - c. Programme managers
3. The faculty of facilitators or trainers
4. The client organization, the ultimate user and financier of training.

Dimensions of Evaluation

The following dimensions are worth mentioning for evaluation of training:

1. Context: (factor not directly related to training, but significant ones affecting its effectiveness. For example, boarding and lodging arrangements).
2. Inputs (what is contained in the training – the curriculum the contents).
3. Outputs (the result of training in terms of better understanding, change of behaviour, or improvement of practices in the organization).
4. Process (The climate of the training organization, the relationship between participants and trainers, the general attitudes and approaches of the trainers, trainees, training methods and materials, etc.).

Procedures for Evaluating Training

The question of how to evaluate training involves two aspects i.e. the overall design of evaluation and the specific techniques to use in evaluating training.

Evaluation Techniques

Evaluation techniques can be classified in various ways. One way may be to classify them into response (reactive) techniques and unobtrusive measures or secondary source data techniques. Techniques requiring some kind of response produce some reaction in those who are responding. The very act of asking people questions (orally or in a written form) may produce change. Since they produce reactions these are also called reactive techniques. Other techniques can be called “unobtrusive”. These make use of available data or secondary source data. For example; to measure whether general morale has improved in a unit, it may be more useful to use secondary source data like examining figures of absenteeism rather than asking questions.

In fact, unobtrusive measures or secondary source data may be much more creative and imaginative and need to be discovered and used more often, for evaluation. Another non-reactive technique, a very old one, is that of observation. Observee know that they are being observed.

Evaluation techniques usually collect data from participants, and these are, therefore, called response or reaction techniques. The methods of data collection may included interview, written reactions (questionnaires, scales, open-ended forms), and projective techniques. One additional method in this category worth mentioning is group discussion by a small group consisting of individuals having experienced and enough knowledge about population education may give better evaluation results than figures calculated from routine responses.

The greatest contribution to the development of evaluation techniques has been made by advances in scaling techniques. Techniques based on well prepared instruments to measure various dimensions are being increasingly used. Various method of scaling can be used to develop effective evaluation techniques. The three well known scaling techniques (associated with Thurstone, Likert and Guttman) can be imaginatively used in preparing new evaluation tools. More recent developments have opened new vistas for sophistication in evaluation work.

While evaluating training, the purpose and the clientele of evaluation should first be clarified. Ordinarily a training institute may undertake reaction or response evaluation of the contextual factors of every training programme. When

a programme has been conducted for a long period of time, a thorough evaluation may be undertaken to answer several questions, from pro-training work post-training support and utilization.

5. SUMMARY

Teachers and workers of population education need training to materialize the programmes and policies relating to many aspects of population related problems and issues. Some countries have fairly developed expertise in this area but in other countries there is a need to help the population education teachers and workers so that they may do their job in a better way.

In this unit, concepts and technique relating to the training of population education of teachers and other workers have been discussed. The most important of these techniques are inquiry approach and values clarification. Other useful techniques that are very often used to communicate the messages of population education are symposium, role playing, demonstrations and practical training other topics that were discussed in this unit are the organization and evaluation programmes for population education.

It is expected that at the end of this course the learner will be able to appreciate the need for training in the area of population education and will be able to use various teaching techniques relevant to population education programmes. Further, he will also be able to respond to the tasks related to the organization and evaluation of such programme.

6. SELF ASSESSMENT

A) *Multiple Choice Items*

1. Research has shown that through value verification method student learn:-
 - A. to work hard and understand standards,
 - B. to resolve value conflicts,
 - C. to be emotionally disruptive,
 - D. to solve population problems,
 - E. to be extremely active.
2. Distance teaching introduces the practice of:
 - A. Classroom practice.
 - B. Population education.
 - C. Team teaching.
 - D. Machine teaching.
 - E. Self-learning.
3. Inquiry approach is a:
 - A. Teaching style.
 - B. Best style.
 - C. Way of doing research.
 - D. Innovative idea.
 - E. All of the above.
4. The primary goal of inquiry approach is:
 - A. to list a strategy of education.
 - B. to equip a student with necessary training skills.
 - C. to provide the student a sense of efficacy.
 - D. to design a method of instruction,
 - E. to solve students problems.
5. High level of literacy rate is one of the factors that is contributing to the:
 - A. Success of family planning programme.
 - B. Education of masses towards population problems.
 - C. Low level of families.
 - D. Lack of success of family planning programmes.
 - E. None of the above.

6. The low status of women is contributing to the:
 - A. Success of family planning programmes.
 - B. Education of masses towards population problems.
 - C. Low level of families.
 - D. Lack of success of family planning programmes.
 - E. None of the above.

7. The absence of a social security system is one of the factors that are contributing to the:
 - A. Success of family planning programmes.
 - B. Education of masses towards population education problems.
 - C. Low level of families.
 - D. Lack of success of family planning programmes.
 - E. None of the above.

8. The most effective use of feedback from evaluation may be:
 - A. To provide overall control on training as an instrument of change.
 - B. To use feedback for evaluation.
 - C. To identify the clients of evaluation.
 - D. To state the objectives of a training programme.
 - E. None of the above.

9. In evaluation, context may be:
 - A. the inputs
 - B. lodging arrangements.
 - C. process skills.
 - D. The curriculum
 - E. Training outcomes.

10. Teaching is a process of helping the learner to:
 - A. See why the things to be learned are useful to them.
 - B. Relate new learning to their previous knowledge.
 - C. Actively and freely apply what they learn.
 - D. Get immediate reinforcement.
 - E. All of the above.
 - F. Some of the above.

B) True and False Items

- | | | | |
|-----|---|---|---|
| 1. | Information level programmes are sufficient to convince the people concerning the need for family planning. | T | F |
| 2. | Population education is not value laden. | T | F |
| 3. | Pre-service training programmes should be replaced with in-service and distance education programmes. | T | F |
| 4. | Evaluation implies feedback. | T | F |
| 5. | Training objective is the next logical step after the training programme is designed. | T | F |
| 6. | Successful learning takes place when feedback follow up. | T | F |
| 7. | The subject matter of population education is not controversial. | T | F |
| 8. | Inquiry approach is exactly equal to problem solving method. | T | F |
| 9. | Mass media is the single best technique to convince people with the idea of small family is a happy family | T | F |
| 10. | Family planning programmes have been very effective in achieving the objectives of population education. | T | F |

C) Short Answers

1. What is meant by the word value? Explain.
2. State the most important reason for pre-service training.
3. Name any two elements of value clarification.
4. What is difference between in-service and distance training programme.
5. List new types of social developments which have posed challenges to the population education planners and administrators.
6. Define inquiry approach.
7. What is meant by a training cycle.
8. Name the two aspects of overall design of evaluation.
9. What is the use of distance education

7. ANSWERS TO SELF ASSESSMENT QUESTIONS

A) Answers to multiple choice items:

1.	B	2.	E
3.	A	4.	C
5.	D	6.	D
7.	D	8.	A
9.	B	10.	E

B) Answers to True and False items:

1.	D	2.	F
3.	F	4.	T
5.	F	6.	F
7.	F	8.	F
9.	F	10.	F

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MONITORING AND EVALUATION

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CONTENTS

	Page
Introduction	325
Objectives	326
1. Monitoring	327
1.1 Types of Monitoring	327
1.1.1 Financial	328
1.1.2 Administrative	328
1.1.3 Academic or technical	328
1.1.4 Physical	328
1.2 Conditions for a Successful Monitoring System	328
1.2.1 Regularity	328
1.2.2 Accuracy	329
1.2.3 Promptness	329
1.2.4 Completeness	329
1.3 The Monitoring Process	329
1.4 Monitoring Techniques	331
1.4.1 PERT	331
1.4.2 CPM	331
1.5 Monitoring Mechanism	333
1.6 Computerised Project Monitoring System	333
Self-Assessment Test-II	334
2. Evaluation	334
2.1 Why Project Evaluation	336
2.2 The Continuity of Evaluation	337
2.3 Evaluation Levels	338
2.4 Evaluation Stages	338
2.4.1 Preliminary feasibility evaluation	338
2.4.2 Concurrent Evaluation	339
2.4.3 Final evaluation	340
Self-Assessment Test-III	341

2.5	Evaluation Models	341
2.5.1	Discrepancy Evaluation Model (DEM)	342
2.5.2	Stufflebeam Model (CIPP)	342
2.5.2.1	Context evaluation	342
2.5.2.2	Input evaluation	343
2.5.2.3	Process evaluation	344
2.5.2.4	Product evaluation	345
2.6	Characteristics of Evaluation	345
2.7	Steps in Designing the Project Evaluation	346
2.8	Evaluation Framework	349
	Self-Assessment Test IV	352
3.	Bibliography	353
4.	Key to Self-Assessment Tests	355

INTRODUCTION

Monitoring and evaluation share a common characteristics i.e. both involve the collection of information to make decisions about programmes. For this reason, many educators use monitoring and evaluation interchangeably as if no difference in emphasis exist between them. At the outset, it should be pointed out that monitoring is mainly concerned with assessment of the mechanics, of programme implementation, including logistics. In evaluation, judgment of worth is involved. In general, monitoring and evaluation are components of the same continuum.

The monitoring and evaluation of the project is a systematic procedure to collect and analyze information associated with the implementation of the project. The monitoring of the project relates to planning and management of the project. The purpose of monitoring is to provide timely information and give feedback to the management on vital stages in project implementation. The monitoring of the project is a concurrent activity associated with every stage of the development of the project. The periodic feedback on the progress of the project helps project management to know the achievement of the project vis-à-vis targets and helps the management to take appropriate steps for proper implementation of the project. It can correct lagging time-schedule, synchronization of related project activities and identify the gaps in various components of project implementation. It is a system of forewarning on the deviation of the project from its chartered or targeted course.

Monitoring enables a continuing critique of the project's implementation and effectiveness, whereas evaluation is concerned with an in-depth analysis of the project's impact i.e. how well the project has achieved its objectives according to the set criteria. In the absence of effective system of monitoring and evaluation, the strengths, weaknesses and positive results cannot be clearly identified. Monitoring involves the smooth flow of information to different levels of the project and effective feedback for corrective action. Feedback provided by the monitoring process is the most crucial element of this system. While monitoring mainly deals with the flow of information to guide and facilitate decision making regarding management of the programme, evaluation is a much wider concept, it is a broader process of collecting evidence for judging the effectiveness of different stages of the programme. Monitoring and evaluation has to be related to the broad objectives of the population education programme. The focus of these exercises should be on the improvement of the efficiency of the programme. With a view to maximizing learning and enabling learners to transform their lives through learning and the application of learning in their day to day activities.

OBJECTIVE

After studying this unit you will be able to:

1. Define the term 'monitoring' clearly
2. Describe the types of monitoring
3. Explain the conditions for successful monitoring system.
4. Write a brief but comprehensive description of monitoring process
5. Elaborate the monitoring techniques
6. Clearly define the term “evaluation” and its application.
7. Describe the need for project evaluation.
8. Describe the role of evaluation in population education projects.
9. Explain the evaluation levels and stages
10. Discuss the evaluation models and steps in designing the project evaluation
11. Develop the evaluation framework
12. Describe the difference between monitoring and evaluation.

1. MONITORING

Monitoring, as a part of evaluation, may be defined as a process of watching periodically the progress of a programme or project with a view to identifying shortfalls, if any and taking appropriate corrective measures in order to optimize the efficiency and effectiveness of the programme. Monitoring is an essential component of all the population education programmes. The main objectives of monitoring are to:

- a) assess the progress of programme/project with reference to their immediate and long-term objectives;
- b) identify necessary action in order to ensure efficiency and effectiveness of the programme or project;
- c) provide feedback information for adjustments in work plan and budgets; and
- d) provide information on future programme needs.

The process of monitoring is shown in figure 1. It can be divided into four stages or steps viz planning, inputs, processes and outputs. These normally form the main ingredients of any project or programme. The planning stage involves setting the objectives of the programme in terms of immediate, intermediate, and ultimate and deciding the plan of operation. The target groups to be covered and the scope and duration of the programme are also fixed. The inputs, external and internal, in the form of men, money and materials are provided to the programme. This leads to the third stage of implementation of programme which involves the development of materials, training of personnel, research as well as management of the different components. The fourth stage completes the cycle of monitoring in which the outcomes of the programme in terms of material, learning outcomes, personnel trained and achievement of objectives are assessed. Each of these stages is complementary and interrelated.

Monitoring is a process of watching periodically the progress of a programme or project with a view to identifying shortfalls and taking appropriate corrective measures in order to optimize the efficiency and effectiveness of the programme.

1.1 Types of Monitoring

Monitoring can be classified under four main categories depending on the functions it serves. These are: (i) financial, (ii) administrative or management, (iii) technical/academic, and (iv) physical.

- 1.1.1 Financial Monitoring is one of the important components of any programme. The availability of funds in adequate quantity at appropriate time will determine, to great extent, the smooth implementation of programme activities. It is, therefore, necessary to find out whether the funds are being made available to the project on time and whether these are being utilized as per work plan and according to approved financial procedures.
- 1.1.2 Administrative monitoring involves strengthening of management and organizational structure of the programme at various levels, where they exist and creation of new set up where it is required. Besides, the set up and strengthening of the infrastructure, arrangements for the training of personnel, production and distribution of materials, purchases and supply of equipment, creation of Advisory/Coordination Committees at various levels and other such functions come under the purview of administrative monitoring.
- 1.1.3 Academic or technical monitoring is one of the most important aspects of any successful programme. It involves the monitoring of technical inputs and progresses that go into the programme - such as quality of training programmes; type of supervision and guidance available at various levels; types of materials available and their relevance to learner's needs, requirements and interests, etc.
- 1.1.4 Physical monitoring of the programme is equally important, e.g. the location, time, physical facilities, etc. go along way to determine the success of the programme. The equipments and materials needed for programme implementation will be stated in the plan. These should be supplied strictly according to the specifications and the time schedule mentioned in the plan, it should also be one of the responsibilities of the exercise of monitoring to ensure that equipment purchased for the-programme is not diverted to other programmes.

1.2 Conditions for a successful Monitoring System

There are certain pre-requisites of an efficient and effective monitoring system. These are: (i) Regularity, (ii) Accuracy, (iii) Promptness, and (iv) Completeness.

- 1.2.1 Regularity refers to the submission of reports and returns at regular intervals. Much value of reports is lost if these are delayed and do not reach the concerned person time.

- 1.2.2 Accuracy of information is another factor as it provides credibility to the programme. If the supplied information is inaccurate, it will be of little use in taking corrective actions.
- 1.2.3 Promptness in analysis, and supply of feedback to the concerned persons is crucial in monitoring.
- 1.2.4 Completeness of information and feedback is also an important condition in monitoring. If the information provided are incomplete, even if supplied regularly, accurately and promptly, will be of little use in taking any decision or action for the improvement of the programme.

Self-Assessment Test-I

1. Here are some statements. Tick the letter “T” if the statement is true. If the statement is false, tick “F”.
 - T F Promptness in analysis and supply of feedback to the concerned persons is crucial in monitoring
 - T F Monitoring is not a part of evaluation
 - T F Academic monitoring is concerned with the quality of training and type of supervision and guidance available.
 - T F Delay in monitoring reports has least effect on the programme or project evaluation.
 - T F If the supplied information is inaccurate it will be of little use in taking corrective actions.
2. Four types of monitoring are;
 - i. _____ monitoring
 - ii. _____ monitoring
 - iii. _____ monitoring
 - iv. _____ monitoring
3. What are the conditions for a successful monitoring system?

1.3 The Monitoring Process

Monitoring may include analysis, reviewing and evaluation of the progress in terms of (a) Financial-cost and expenditure, (b) physical - production performance and physical progress/achievement, (c) Time for completion of various activities including administrative activities and sanctions, (d) Avoiding

pitfalls experienced in similar situations, and (e) incorporating procedures of advantage in reducing cost and time-frame obtained from experience elsewhere.

The first task in introducing a monitoring system is to clearly identify the educational objectives, targets, strategies and the concrete tasks and actions to be performed according to the schedule. In introducing a monitoring system one must also consider the question of costs. Too frequent monitoring, or monitoring with excessive data, can become not only costly but also co-productive. A decentralized system of management would ensure that monitoring takes place at different levels with relevant data.

Achievement of specific objectives involves a series of planned operations, each of which has to be completed at a specific time so that subsequent steps can proceed. Monitoring helps to ensure that various steps are completed by the concerned persons. Monitoring also helps in enforcing accountability for the performance of various tasks by clearly bringing out how much of the tasks are performed, by whom, in what time and with what quality.

It is necessary to ensure linkage between targets and resources so that the targets are physically achievable within the resources allocated/provided on reasonably realistic basis. The basic purpose of monitoring is to identify the areas requiring corrective action in order to ensure successful implementation as per the schedules. The monitoring function involves (i) watching actual performance, comparing it with the targets and identifying shortfalls, (ii) raising warning signals in advance by observing the actual physical progress of critical milestones as per the network in terms of the scheduled dates as well as the latest allowable dates of completion and informing the decision-makers, (iii) identifying the problem areas, analyzing the problems, suggesting action areas, and (iv) giving feedback of the decision to the implementing agencies, developing data bank etc.

Summary of essential features of monitoring:

- monitoring is an integral part of management;
- monitoring functions may not be seen as “external” intervention;
- supplementary data must be used to fill information gaps and not to duplicate existing resources;
- integrated orientation of the monitoring staff be ensured;
- the key to success in monitoring is a combination of timely action, concise reporting, and flexibility in response to unexpected developments.

1.4 Monitoring Techniques

There are two techniques for the monitoring of a project. These are: (i) Programme Evaluation and Review Technique (PERT); and (ii) Critical Path Method (CPM). These techniques are being discussed in detail in the following lines.

1.4.1 Programme Evaluation and Review Technique (PERT)

Periodic monitoring is linked to the PERT/CPM analysis at the time of a plan formulation and its execution for chalking out the construction phase of a project, role of PERT/CPM techniques of construction management is quite important. Network techniques of construction management is quite important, network technique is quite useful and helps the project managers to minimize the chances of schedule slippages, cost over-run and contractual difficulties. Network technique is known under different names such as Programme Evaluation and Review Technique (PERT) or Critical Path Method (CPM). These methods are conceptually very similar. Network techniques refer to the method of planning, scheduling and control of projects, especially major projects which are of complex in nature.

1.4.2 Critical Path Method (CPM)

Critical Path Method (CPM) is a useful technique for project implementation, it is a technique concerned with finding the least cost way of carrying out a task which consists of a number of activities, at least some of which have to be carried out consecutively. Main application of this technique is in the sphere of planning/controlling construction programmes for large infrastructural and industrial projects. This technique works by first setting out the ways in which activities are related and then to find out the length of time required for completion of each activity. Any sequence of activities which must be carried out consecutively defines a path and the time taken to complete all the activities in path simply the sum of the separate activity times.

The Critical Path is then the path with the longest completion time. It is critical in the sense that its length determines the time required by the whole task. Other paths which are not critical can be fitted around the critical path in such a way as to reduce cost. The main effort at reducing activity time should clearly be directed at activities which are on the critical path. This approach is used to develop realistic schedule based on a knowledge of resources required and the resources available and this ensures the feasibility of meeting directed schedule.

1.5 Monitoring Mechanism

Monitoring is, the overseeing of the decision making processes in programme/plan implementation to ensure the ultimate achievement of the goals. It also serves as a key link between implementation and planning by documenting experiences in implementation which would serve as a data inputs into the next planning cycle. Monitoring is very much a matter of recording the facts of implementation so that at any point in time the planner can obtain a reasonable view of the current status.

A common criticism, however, is that monitoring units do not provide information either in-time or in a relevant manner. If this is the situation then obviously monitoring is not serving its purpose and it would be necessary to reorganize the monitoring system.

For ensuring effective project implementation, monitoring is required in terms of the following parameters viz. project cost estimates (originally approved, latest approved/revised and anticipated), commissioning dates (originally envisaged, latest approved/revised and anticipated). Monitoring of these parameters gives an idea of the cost and time overrun in respect of the projects under review. This type of monitoring may be undertaken for all projects, big and small in the central, state as well as in the private sector.

However, intensive monitoring for keeping a close watch on the project implementation schedule as per PERT Chart of major projects, status of the critical milestones of the constituent events/activities of the project can be regularly reviewed on month to month basis vis-a-vis the scheduled dated of completion as well as, the allowable latest dates. In other words, monthly stock-taking can be done in terms of the critical milestones achieved during the months. Having identified the slippages, the reasons for the delays; can be diagnosed to fix up accountability. Subsequently, action areas can be listed in terms of the input and supply problems in respect of the major project inputs and supplies. After identifying the action areas, the responsible authorities can initiate action dialogue with the corresponding authorities of the sectors responsible for causing delays with a view to fix up accountability. In other words, monitoring should be linked with the review and problem-solving mechanism at the concerned decision-making levels for initiating action.

Further updating of the PERT networks can also become necessary in many cases where the annual plan allocations fall short of the proposed outlays, on which the original PERT charts are based. Similarly, in view of the prevalence of the inter-linkages among projects, slippages in the backward or forward projects may necessitate further revision of PERT schedules, i.e. this would require continuous updating the PERT Charts.

Under this type of monitoring, regular and timely inflow of data is inevitable/unavoidable at meaningful intervals, say on; monthly basis, so that the impending problem should be identified and timely corrective measures initiated. In case of longer reporting intervals, the monitoring remains post-facto ritual having historical significance for ensuring monthly reviews, the need for fast data collection, analysis and dissemination is imperative. For this, computerized information systems need to be developed involving wide use of telex/telegraphic data receiving and computers for data processing facilities.

1.6 Computerized Project Monitoring System

1.6.1 Why Computerized Project Monitoring

For effective monitoring of the major on going projects, a monitoring system can be designed which, can be aimed at timely identification of the warning signals for preventing time and cost-runs and avoiding slippages in the, course implementation of major projects. This can help in identifying the need for initiating timely action in respect of problem areas through inter-agency coordination.

1.6.2 Process of Project Monitoring System

Under this system, monthly progress reports concerning the work/mile stones scheduled for the previous month could be prepared which may highlight identification of the critical problem areas for initiating timely corrective measures to ensure expeditious execution of the projects. A computerized monitoring system could be designed for expeditious processing of the data inflow for issuing timely warning signals. The monitored output of such a report can provide a one-point review of the status of implementation to the Secretaries of the Departments, Heads of the Public Undertakings concerned and the Chiefs at the responsible and accountable level of individual project managements. Wherever inter-departmental coordination is called for, the concerned Secretaries and senior officers can meet and discuss for methods to overcome or reduce the slippages.

SELF-ASSESSMENT TEST-II

- | | | | |
|----|---|-------|--|
| 1. | Here are some statements. Tick the letter “T” if the statement true. If the statement is false, tick “F”. | | |
| | T | F | PERT is one of the two techniques being used for monitoring of projects. |
| | T | F | PERT stands for Physical Evaluation and Research Technique. |
| | T | F | Monitoring is an overseeing of the decision-making processes in plan Implementation to ensure the ultimate achievement of the goals. |
| | T | F | Critical Path Method is useful for short-term projects. |
| | T | F | A computerized monitoring system is useful for timely processing of data |
| 2. | Two monitoring techniques are: | | |
| | i. | _____ | |
| | ii. | _____ | |
| 3. | Discuss the monitoring mechanism in detail | | |

2. EVALUATION

Evaluation is simply a tool to measure and assess the progress achieved in meeting the objectives of a project whether the project has brought changes in the attitudes and behaviour of the target audience and whether their living conditions have improved.

Another purpose of evaluation is also, of course, to take stock of project inputs and outputs, and project operations, to know if the efforts have been worthwhile and what actions need to be modified, changed or strengthened within the project to make it more effective and self-sustaining.

A systematic process of data collection and the analysis of collected data is common to both definitions. The basic difference between the two definitions is the issue of whether decisions/judgments, are an integral component of evaluation. Proponents of definition 1 agree that the results of evaluation may be used for decision-making; proponents of definition 2 consider decision-making to be a part of evaluation. For two major reasons the second definition would seem

to be the preferable of the two; first, definition 2 does not preclude the process described in definition 1; in other words, definition 2 is more inclusive, the decisions of definition 2, for example, may be based on determination of the status of objective achievement. Second, the notion that evaluation can be conducted for strictly descriptive purposes, as definition 1 implies, is comparatively at best. Perhaps, ideally, the sole purpose of evaluation should be to provide feedback in order to improve the object of the evaluation, as the first definition suggest. If that were the case, evaluation would involve determining the difference (if any) between where we are and where we would like to be (our objectives) and if necessary, devising ways to eliminate or lessen the difference.

Examination of evaluation literature makes it very evident that there are almost as many definitions of evaluation as there are Evaluation “experts”. With minor variations, most of the definitions basically represent one of two philosophical viewpoints, illustrated by the following two definitions:

1. Evaluation is the systematic process of collecting and analyzing data in order to determine whether and to what degree, objectives have been, or are being achieved.
2. Evaluation is the systematic process of collecting and analyzing data in order to make decision.

Because of the relative nature of the above concepts, evaluation as a process implies a comparison of the object under evaluation to another similar object used as a standard of comparison whose qualities are well known to the evaluator. Such standards could be either quantitative (size, weight, etc) or qualitative (good, bad, beautiful, ugly, moral immoral etc), in both cases standards are man-made and, therefore as evaluation criteria, they do not have universal value. This is particularly true for the qualitative criteria which are entirely subjective but which, within a particular cultural environment and within a specific time period, may acquire increased acceptance.

It is clear, therefore and there does not seem to be any disagreement on it, that because evaluation implies a comparison of what is to be evaluated with something which may be considered as a criterion, i.e. an ideal state, an acceptable behaviour, an anticipated behaviour, an intended result or goal, etc., there will be a need for collecting all relevant information on both the exact state of the object for evaluation and the criteria to be used for comparison.

For the purpose of this unit the discussion will be restricted to “population projects” or specific operational activities purposefully undertaken by different organizations. Projects would also vary in terms of complexity. The building of a school unit is a project, as is the development of a curriculum or the development of radio education system. It is apparent, however, that a school building is much

less complex and much more tangible than a radio education system or even a curriculum; it will, therefore, be necessary in each case to be in a position to identify the project and all its aspects, subject to evaluation.

2.1 Why Project Evaluation/Role of Evaluation in a Project

The purpose of evaluation is to determine the current status of the object of the evaluation, to compare that status with a set of standards, or criteria, and to select an alternative in order to make a decision. There may be only two alternatives (e.g. continue the programme or not, adopt the new curriculum or keep the current one) or there may be several alternatives (e.g. many textbooks may be available for adoption). Further, every effort is based on one or more objectives, whether they are stated (as they should be) or not and the purpose of evaluation is the same regardless of the type of evaluation or the nature of the objectives, be they instructional, curricular, or project objectives, explicit or implicit, process oriented or product-oriented, short-term or long-term.

According to the general definition of evaluation, it is evident that there may be several reasons for project evaluation. For example, there may be a need to judge the importance of a foreseen project to those for whom the project is intended. There may also be a need for estimating the cost and/or eventual success of a project in relation to the total amount of money available for a particular task and/or in relation to the cost of alternative projects. Even when the project is under implementation or experimentation, there may be a need for assessing the successful implementation of the various components of the project. After the project is put into operation there may be a need to appraise the degree of success, viewing it in relation to the initial goals of the project. In addition to all these factors, there may also be a need to find out the relevance of the project as well as any side effects (good or bad) which the project might have caused.

Whether a project will be subjected to all the above types of evaluation is, of course, a matter to be decided by those responsible for the project and/or by those affected by it. Project evaluation, therefore, should be seen both from the point of view of the organization responsible for the project and from that of the recipient or client. The need for such a double and sometimes triple, viewpoint arises mainly from an eventual difference in the specific interest placed on the project by the various parties involved and/or the different evaluation criteria that these parties may wish to employ for evaluation. Although it is assumed here that during the project design stage the objectives and goals of all these agents are simultaneously taken into account, it could happen, however, that types of evaluation demanded by each of these parties, as well as the criteria employed for the valuation, might differ.

In fact, evaluation and planning functions are inseparable and indispensable functions of project management. Evaluation starts operating early, at the stage of project conception and continues throughout the life of the project, i.e. its experimentation, implementation, and operational stages. It is through evaluation that information about the eventual or actual results of a decision and/or action, implied in a project, is passed back to the project planning system in order that the necessary corrective measures may be undertaken.

2.2 The Continuity of Evaluation

Evaluation is a continuous process, contrary to public opinion, it is not what you do “at the end”. Evaluation should be planned for prior to the execution of any effort and should be involved throughout the duration - that is right at the beginning, in the middle, and at the end (if there is an end). There are typically a series of temporary “ends” in a continuous cycle. Take student evaluation, for example: We start with a set of instructional objectives. Then we implement instructional strategies to facilitate their achievement. Then we measure achievement - a temporary end in the instructional cycle. Based on the results, we reassess our objectives and strategies and proceed. Thus, the process is cyclic with feedback from one cycle guiding the next. We do not just evaluate the outcomes: every stage of the process is subject to evaluation, beginning with the objectives.

The notion that evaluation must be planned for before execution is a critical one. There was a time, not too long ago, when evaluation was almost an afterthought. A programme would be implemented and allegedly do all sorts of wonderful things. Then, after some period of time, participants would start thinking about how they are going to evaluate the programme. Typically, an evaluator would be hired as a consultant to “do” the evaluation and “show” that the programme was “good”. By ignoring evaluation until the end, the programme could miss the feedback necessary for the successful implementation of the project.

2.2.1 Phases of Evaluation

The evaluation process entails decision-making. Any educational endeavour involves a whole host of decisions which must be made - decisions about objectives, decisions about strategies, decisions about measurement and so forth. These various decisions can be classified in terms of when they are made. Thus, each phase of evaluation involves different kinds of decisions. Logically, we can identify three phases; the planning phase, the process phase and the product phase. The planning phase deals with “What will we do” question; the process phase asks “How are we doing?; and the product phase is concerned with “How did we do”? A discussion of the events in each of the three phases of evaluation should further clarify the concepts. Keep in mind that the evaluation

process is basically the same regardless of what is being evaluated.

Evaluation is a part of the educational management functions by which the process and the results of implementation are critically analyzed in the context of previously determined strategies and objectives. Evaluation is crucial to the continuity and constant improvement of the planning mechanisms and process from the first stage in the planning cycle to the last. This role of evaluation leads to the following two main purposes of evaluation:

- i. To ensure feed-back in the planning process
- ii. To establish a continuous and permanent process of evaluation.

2.3 Evaluation Levels

Evaluation of plans, programmes, projects and the education system may be undertaken at various levels: national, provincial, regional or zonal and local or institutional. These levels are generally determined by the degree of decentralization of the planning process. The aims of education are different at each level.

At the national level, for example, the conceptual frame work, the criteria and the evaluation indicators put the stress on the relationship between the functioning of the education system and the overall social, economic and cultural development.

At the other extreme one finds evaluation at the local and institutional levels. This deals with the detailed execution of the programme activities and resource utilization in the light of the objectives foreseen. Results may be expressed in both quantitative and qualitative terms including case study reports.

It is to be noted that already available indicators of evaluation may have built-in bias towards the provincial or national level evaluation. For the purpose of planning and management, it will be important to evaluate the programme also from the view point of the local community, environment and their aspirations.

2.4 Evaluation Stages

According to the stage at which evaluation takes place and its relation to the execution, one may distinguish between three stages of evaluation: preliminary feasibility evaluation: and final evaluation.

2.4.1 Preliminary feasibility evaluation

This is an analysis of the coherence and consistency to be found in the formulation of a plan and is a matter of examining the plan's feasibility. At the

micro level, it is desirable to verify whether the objectives have been correctly formulated and whether they will contribute to solving the problems found during local diagnosis. Verification should also be made of whether the specific objectives and the programmes and projects correspond to the plan's objectives and whether it will be possible to carry out the plan with the resources available, the existing administrative capability and taking into account other internal or external factors.

Among external factors are demographic, socio-cultural, political, administrative, economic and ecologic aspects, insofar as they influence the development of the education system. Using to the fullest extent possible the information contained in the diagnosis, an analysis could be made of the external factors during the preliminary evaluation in case constraints might appear on the proper execution of the plan.

Internal factors concern the elements contained in the plan. Here, it is a matter of analyzing the plan's internal coherence, i.e. of seeing if the general objectives are suitably formulated and if the specific objectives, strategies, programmes and projects adopted will enable the general objectives to be attained.

Generally the analysis of internal coherence is concerned with the changes foreseen by the plan, the pre-conditions for these changes, the availability of resources (financial and human) and administrative capacity to implement the plan.

2.4.2 Concurrent evaluation

Concurrent evaluation, also referred to as formative evaluation, takes place during i.e. implementation of a plan.

In operational terms, it is the observation of plan execution to the extent that it is a matter of surveying the progress made in the implementing what is programme with a view to supplying information which will enable corrections to be made of any deviations or divergences in the action undertaken to attain the plan objectives.

Concurrent evaluation needs to be carried out continuously and to be reflected in the periodic reports covering the diverse aspects of the plan. It results in taking corrective steps to secure better implementation of the plan.

In concurrent evaluation the degree of programme execution is ascertained in respect of financial, administrative, material, academic and technical aspects. Observations may deal with the plan as a whole or in detailed form, according to its various programmes, projects and activities.

The purpose of evaluation of population education programmes is not only to obtain a measure of the effectiveness of the programmes (summative evaluation) but also to provide feedback information (formative evaluation) for programme designers, implementers and participants. In like manner, we all know the benefits of feedback (formative evaluation) information for redesigning and improving a programme. However, one of the real benefits of formative evaluation lies in its contribution to the further understanding and reinforcement of the knowledge, attitudes and behaviour of the programme recipients. Through the feedback process, programme participants discover the consequences of their attitudes and decisions accordingly modify their attitudes, decisions, and behaviours.

The results obtained through formative evaluation should be passed back immediately to those concerned with the project development. If these results show that the stated objectives are indeed being achieved, the project can continue along the lines already adopted. If results reveal, however, that the improvement sought, or the achievement of the standards desired, is falling below expectations, then steps should be taken to change the project in a direction that subsequent evaluation will reveal to be more appropriate for the achievement of the stated objectives. Only continual evaluation of this kind can ensure that the objectives will be achieved. Such formative evaluation does, in fact, occur in the construction of hardware (e.g. school building) when architects inspect and modify construction projects in process.

2.4.3 Final evaluation

Often referred to as summative evaluation, final evaluation has a double aspect. On the one hand, it coincide with the final phase of concurrent evaluation and with a view to improving later plans, analyzes results, problems, difficulties and deficiencies incoherence detected during the execution of a plan. On the other hand, it should be directed towards the development of the micro-level system so as to identify problems to be solved. In other words, subsequent evaluation concentrates on the results of the implementation of a plan for educational development and on the impact of education on social, economic and cultural development.

Two kinds of circumstances can be identified in which summative evaluation may be desirable. The first arises in a project, usually a short term one, in which the circumstances will hardly permit of any changes being introduced during the course of the project. The second circumstance in which summative evaluation may be desirable course at the end of a project during which formative evaluation had been carried out. The primary aim of formative evaluation is to ensure, through changes brought about by the feedback process, that the originally

stated objectives of a project are being achieved. In many instances, however, the feedback process causes changes to be made in the initially specified objectives, because some may prove to be unattainable in their original form. Where this happens, a summative evaluation should report on the extent to which both original and modified objectives have been achieved.

It will be seen from the above that the usefulness of summative evaluation is somewhat limited. It is rarely possible, with such evaluation, to make judgment or conclusions about any improvement that might have taken place since the inception of a project. Further, there is no opportunity to affect a change if the summative evaluation demonstrates that particular objectives have not taken place.

SELF- ASSESSMENT TEST III

1	Here are some statements. Tick the letter “T” if the statement is true. If the statement is false, tick “F”.
	T F Monitoring provides important information base for evaluation.
	T F Evaluation is that what is done at the end of a project.
	T f Concurrent evaluation is different from formative evaluation.
	T f Final evaluation is also known as summative evaluation.
	T F Some external factors influence the development of the education system.
2.	Evaluation stages are: i. _____ ii. _____ iii. _____
3.	What is meant by continuity of evaluation? Discuss in detail

2.5 *Evaluation Models*

Depending upon what is being evaluated, different kinds of data will be collected, different criteria will be applied to the data and different kinds of decisions will be made. But the basic evaluation process is the same and the same general concepts and principles of evaluation are acceptable. Probably the two most widely known and used models are DEM and CIPP.

2.5.1 Discrepancy Evaluation Model (DEM)

Discrepancy Evaluation Model (DEM) was developed by Provus. Under this model, evaluation basically involves making decisions based on a determination of the differences, or discrepancies, which exist between standards and actual performance. In other words, evaluation involves a comparison of the way things are, with how they should be. There is nothing wrong with either one of these models. If you followed one of them, or one of the many others available, you would have valid guidelines for conducting an evaluation. The point is, however, that all valid systems and models for evaluation involve the same essential components, namely: specification of goals and objectives; selection and/or development of measurement tools; delineation of strategies for objective attainment; process and product procedures; and analysis and interpretation of results. The term used to describe these processes may vary and the level of specificity at which they are described may vary, but the basic processes are the same.

2.5.2 Stufflebeam Model (CIPP)

Stufflebeam, in a paper published in 1968, spelt out the need for evaluation to help in “planning”, “programming”, “implementing” and “recycling” decision. Concern for these led Stufflebeam to propose four types of evaluation, each particularly suited to his categorization of decision types:

1. Planning decisions would be best served by “context” evaluations which, by analyzing the situation and attempting to relate actual and desired conditions, would help to provide a rationale for objectives.
2. Programming decisions would be better served by “input” evaluations on the availability and use of resources and on such matters as the design of the programme.
3. Implementing decisions, as the name suggests, require the kind of information that indicates how things work and what might go wrong. This was called “process’ evaluation.

C.I.P.P. became the short and familiar title of this context Input, Process and Product approach to the evaluation types.

Project evaluation, in general, may be delineated into four types, namely: context, input, process and product.

2.5.2.1 Context evaluation

Context evaluation serves decision making for the planning of an ongoing programme. In the continued planning of such a programme, decisions

have to be made in the context of the programme's goals, the needs and target groups to be served by the programme and the behavioral objectives of the programme. Context evaluation is diagnostic in nature and attempts to discover any discrepancies between programme goals and objectives and the programme's actual impact so that planning decisions can be made or changed to produce greater correspondence between the intended and the actual outcomes. The end products of context evaluation are discrepancies between intended and actual outcomes.

This is the most basic type of evaluation. It has the following functions:

- Serves in the determination of objectives
- Describes the boundaries of the system to be evaluated
- Defines its relevant environment
- Delineates the actual and the desired conditions
- Identifies unmet needs and unused opportunities
- Diagnoses and analyzes problems
- Monitors the system to maintain a current baseline of information and provides a basis for widespread communication and control
- Looks for new emerging value

2.5.2.2 Input evaluation

Input evaluation serves decision making concerned with making the programme goals operational. In other words, input evaluation provides information about the means available to reach the ends (programme goals). It describes the resources available and determines the best use of those resources in terms of costs and benefits, resulting in a design to meet the goals. As a result of input evaluation, programme goals may be deemed unrealistic in terms of available resources; therefore, it may be necessary to redefine programme goals and objectives.

The purpose of this type of evaluation is to provide information for determining how to use resources to meet programme goals through identifying and assessing the following:

- Relevant capabilities of the responsible agency
- Strategies for achieving goals
- Designs for implementing selected strategy

It also provides information on whether outside assistance is required; how

the objectives should be stated operationally; what strategy should be adopted and what operational plan should be employed to implement that strategy.

2.5.2.3 Process evaluation

Process evaluation serves the day-to-day decision-making needs required to carry out a programme. It provides feedback to the producers and managers of a programme so that they can monitor the operations and detect and predict potential programmes in design or implementation. The focus of process evaluation may include assessment of interpersonal relationship, logistics, and adequacy of staff performance and facilities.

A second function of process evaluation is to help programme directors made decision during the course of a programme. Long-term goals are usually specified before this stage is reached, but decisions leading to the implementation of long-term goals may have to be made during the programme itself. As an example, a programme may plan to use local people for in-service training sessions, but the actual choice of personnel, location of sessions and topics may have to be delayed until other aspects of the programme have been made final. Naturally, the clearer and more specific the input evaluation decisions, the easier will be the task of the process evaluation.

Another purpose of process evaluation is the recording of events through regular data collection, in this way project outcomes can be interpreted with a better understanding of what occurred during the programme period.

Once implementation has started, this type of evaluation comes in to provide feedback for the following:

Objectives

- To detect or predict defects in the procedural design in its implementation.
- To provide information for programmed decisions.
- To maintain a record of the procedure as it occurs.

Strategies:

- Identifying and monitoring continually the potential sources of failure in a project.
- Projecting and servicing programmed decisions to be made by project managers during the implementation of the project.
- Notifying the main features of the project design and describing what is actually taking place.

It is essential to have continuous feedback about the project so that process evaluation can perform a vital function. Information is delineated, obtained, and reported as often as required - daily, if necessary especially during the early stages of a project

2.5.2.4 Product evaluation

The purpose of product evaluation is to measure and interpret attainments not only at the end of a project cycle, but as often as necessary during the project term.

The consequences of a product evaluation may include decisions to terminate a programme to refine and continue it, or to modify it to some degree.

In Asia and the Pacific region, evaluation is built-in as one of the major activities of country projects in population education. However, the usual indicators of success are the project outputs, namely: (i) the variety and number of teacher's guides, supplementary readers, resource books, textbooks, field workers' manuals, posters, charts, slide and tape sets, etc. which are produced; and (ii) the number of educators given orientation, teachers and field workers trained, and the students and out-of- school youth and adults taught. In the chart below, emphasis has been placed on citing achievements regarding items in columns 2 (process) and 3(output). These are basically assessment of efforts and outputs vis-a-vis the evaluation of effects (column 4) and impact (column 5) of the programme.

As a summary, context evaluation determines the specifications for product evaluation, while input evaluation provides the specifications for process evaluation. However, operationalization by input evaluation for assessing the extent to which these criteria have been achieved are the bases for designing product evaluation. Product evaluation investigates the extent to which objectives are being attained. Process evaluation assesses the extent to which procedures are operated as intended. Both types provide feedback for control evolving change procedures in process. Product evaluation would go throughout, leading to a reformulation of the change to be brought about, modification either in strategy or procedure and termination of the change effort.

2.6 *Characteristics of Project Evaluation*

A good project evaluation should have the following characteristics:

- i. It should be realistic and relevant to decision-making, i.e. it takes into consideration the source of evaluation and brings out fully the implications to the decisions to be taken.
- ii. It visualizes both the immediate and long-term conditions of success.

- iii. It is credible (based in part on technical competence and in part on the evaluator's reputation for independent appraisal).
- iv. It is scientific (involving collection of facts and their systematic interpretations).
- v. It is supported by qualitative analysis and full statistical information as a basis for modifying hypotheses.
- vi. It has healthy skepticism, i.e. all aspects of project appraisal have been looked into with specific expertise.
- vii. It is continuous and forward looking.

2.7 Steps in Designing the Project Evaluation

In designing project evaluation, care should be taken to include evaluation clauses followed by specific evaluation guidelines corresponding to the project's implementation (or experimentation) design. In each case the designer of a project's evaluation will have to improvise to a great extent. Nevertheless, the following general steps may provide guidance for the design of various types of project evaluation. This list is by no means a complete one and should, therefore, serve only as a suggestion.

2.7.1 Set the Boundaries of the “System”

The setting of the system's boundaries, i.e. the delineation of that part of the programme which will be subject to evaluation, is more the task of the administrator than that of the evaluator. This operation is particularly necessary when evaluating large and complex projects. The evaluator should, of course, assist in such work and together with the administrator arrive at some definitions meaningful to both of them.

2.7.2 Identify the Project Objectives:

The identification of project's objectives to be considered in evaluation is rather difficult when performed in a time remote from that of project's execution. The literature is full of examples indicating the almost impossible nature of identifying the project's objectives. If, however, provisions for project evaluation are made at an early stage, the project's objectives will be more easily identified.

2.7.3 Identify the Evaluation Objectives:

This is another important consideration as well as a source of inevitable conflict between the evaluator, the administrator and the policy-makers affected. There are two possible approaches of summative evaluation corresponding to two different evaluation objectives. The tailored evaluation which refers to evaluation

where the outcome measures have been uniquely developed to fit behavioural objectives or actual inputs that can be specified for a particular social programme. This type of evaluation is usually preferred by project managers who care only about the effectiveness of their programmes and do not really care about other outcomes such as unintended effects.

Policy-makers, however, seem to take a broader view of the objectives of the evaluation. They wish to see the project being evaluated from several viewpoints to account, for example, for side-effects, long-term effects, etc. In such a case, the medical model of summative evaluation seems to be more appropriate. Based on a tradition in medical research the medical model has, four dimensions: The first involves the evaluation of the curative potentialities of a drug and/or a therapeutic technique. This coincides with the effect of the tailored model. The second dimension refers to side-effects, especially those which have not been anticipated. The third dimension relates to generalized positive effects beyond the intended one. The final dimension pertains to the duration of the project's effect.

The above suggests that the evaluation objectives which may go beyond the specific goals of the project have to be set well in advance and be incorporated into the evaluation design.

2.7.4 Break-down the Project into Meaningful Components, Activities, etc.

This is an important operation, especially in system's performances evaluation or evaluation of large and complex projects. It may be desirable to perform the evaluation of only one component of the project or one of the system's subsystem. In such cases, the way the system or programme is broken down plays a crucial role in the success of the evaluation effort. This discomposition can be made by following either a structural or a functional approach. Structurally, a programme or system can be separated into geographical or administrative units, etc. Functionally, it can be split up by means of its various processes such as teaching/learning in an educational system.

2.7.5 Identify the Goals of Each of the Identified Components:

It is evident that the goals of the programme's components or the system's sub-system will differ from those of the entire programme or system. It will be necessary, however, to establish a meaningful relationship between the goals of the system and those of its sub-systems. This relationship is usually in a means-end sequence.

2.7.6 Identify the Relationship Existing Among the Various Components:

Care should also be taken in identifying the existing relationships between the components and elements of a programme or a system in order to identify those which are more affected by the project's effects. If the outcomes of the project will have an effect on previous relationships this should be detected in advance to avoid negative repercussions. An example could be that of a teaching innovation affecting the existing power structure in the classroom or the school. In such a case, the introduction of this innovation (i.e. the project) might fail if the appropriate measures are not previewed.

2.7.7 Identify the Inputs and Outputs of the System and of its Components:

The identification of the inputs which produce a particular output (or outcome) is apparently a very important exercise. Very often, bad evaluation results may be due to insufficient inputs used either for the evaluation itself or in the project's implementation.

2.7.8 Identify the Most Important Processes to be Considered:

It may not always be necessary to evaluate all the processes or activities to arrive at meaningful evaluation results. There may, therefore, be a need for selecting those which, to the evaluators, are the most important. For example, in an education system one could identify the following processes: teaching-learning, evaluation, financing, staffing, etc. Which of these should the valuator consider when evaluating the programme.

2.7.9 Identify the Appropriate Evaluation Techniques:

It may be necessary that the evaluation techniques to be employed for evaluating the project's effect be incorporated into the evaluation design. This will facilitate the role of the designer responsible for project evaluation. It should, however, have enough flexibility for the administrator to consider the views of the evaluator. The identification of the evaluation techniques at an early stage will certainly facilitate the costing of the evaluation exercise by considering such problems as availability of data and data-gathering techniques, etc.

2.7.10 Set the Appropriate Evaluation Criteria:

Project goals usually serve as evaluative criteria, but very often objectives and goals are not directly measurable. Therefore, there will always be a need to set up some proxies for objectives and goals along the lines discussed earlier. Most of these criteria may be incorporated into the evaluation design.

2.7.11 Describe the Reporting System:

The evaluation effort will be useless unless its findings are reported in time and in a comprehensive form to the decision-makers. This directly suggests the evaluation design should prescribe the ways and means for communicating the information selected, as precisely as possible, especially in the absence of an internal organizational information system.

2.7.12 Estimate the Project's Evaluation and Cost of Evaluation:

There are, obviously, two fundamental exercises which have to be undertaken at the project design stage. If there are indications that either the evaluability of the project is doubtful or the probable evaluation cost risk being very high, then there may not be a project evaluation.

Monitoring and evaluation are essential elements in the planning and implementation of any programme to ensure that the programme is attaining its objectives as efficiently and as economically as possible without any undesirable side effects.

2.8 Evaluation Framework

Figure 3 is a simple model for the evaluation of population education programme. It shows that resources (inputs) are assembled and combined in various ways (processes) to produce goods and services (outputs). The intent of most programmes is that these goods and services will have some effect on people, i.e. changes in their awareness, knowledge, attitudes (primary effects), changes in their behaviour and changes in conditions or levels of living (status changes) such as fertility or economic levels. Programme evaluation may consider some or many of these elements, singly or in combination. The evaluation findings should then be useful for revising or planning the programme.

The following are the major parts of the evaluation framework:

2.8.1 Identification of programme objectives to be evaluated

2.8.1.1 Objectives: Which objectives are to be evaluated?

- i. Outputs
 - goods: teaching-learning materials training packages, audio-visual kits,
 - services: training courses, etc.

- ii. Primary effects
 - Changes in awareness: awareness of problems related to population, resources, development, quality of life, etc.
 - Changes in knowledge: understanding of interrelationship between population change and different aspects of quality of life, reproductive physiology, population dynamics.
 - Changes in attitudes: feelings about family size, population issues, etc.
 - Planning and management skills: planning a family, management of resources, etc.
- iii. Changes in Behaviour
 - acceptance: acceptance of small family norm, new values, adoption of new training techniques, etc.
 - practice: continuity of behaviour changes
- iv. Status changes
 - fertility level changes: prevention of pregnancy, changes in birth rates, etc.
 - quality of life level changes: improvement of the “quality of life” such as health, income, etc.

Programme objectives may be very modest or they may be ambitious. If they can be stated explicitly, they should fall into one of the four categories listed above. Output objectives are the most modest and the easiest to measure. They relate to the primary results of programme efforts: goods and services provided. Primary effect refer to changes in awareness, knowledge or attitudes. Behavioural change objectives are more ambitious and more difficult to measure. Status change objectives are very ambitious and very difficult to relate to programme efforts. The following may be of value in relation to the evaluation of a programme.

- 2.8.1.2 Targets: When target group/s of the programme are to be included in the evaluation?
- 2.8.1.3 Timing: When are the expected changes to take place? When should evaluation be conducted?
- 2.8.1.4 Magnitude and duration: What is the magnitude or scope of changes and how long are they supposed to persist?

3.8.2 Selection of programme activities and content to be evaluated.

- 3.8.2.1 Scope of evaluation: which agencies and programmes are to be included in the evaluation?
- 3.8.2.2 Content of the evaluation: what components of the programme are to be evaluated?
- 3.8.2.3 Inputs: Which resource inputs are to be evaluated?
- 3.8.2.4 Activities: Which programme activities (processes) are to be evaluated?

3.8.3 Selection of the evaluation design and methodology.

Decision with regard to:

- a) Study design; (b) Sample; (c) Measurement instrument: and (d) Data collection and analysis.

SELF - ASSESSMENT TEST IV

1.	Here are some statements. Tick the letter T if the is true. If the statement is False then tick "F"		
	T	F	Discrepancy Evaluation Model (DEM) was developed by Stufflebeam
	T	F	Context evaluation is concerned with the decision making for the planning of an ongoing programme.
	T	F	Project evaluation is a continuous and forward looking process.
	T	F	There are eight steps discussed in this unit for designing the project evaluation.
	T	F	Identification of programme objectives to be evaluated is a major part of evaluation.
2.	CCIP stands for:		
	C	_____	
	I	_____	
	P	_____	
	P	_____	
3.	Briefly explain the evaluation framework		

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4. KEY TO SELF-ASSESSMENT TESTS

TEST 1

1. T F T F T
2. i. Financial
ii. Administrative
iii. Academic or Technical
iv. Physical
3. See answer from the text

TEST II

1. T. F T F T
2. i. PERT
ii. CPM
3. See answer from the text

TEST III

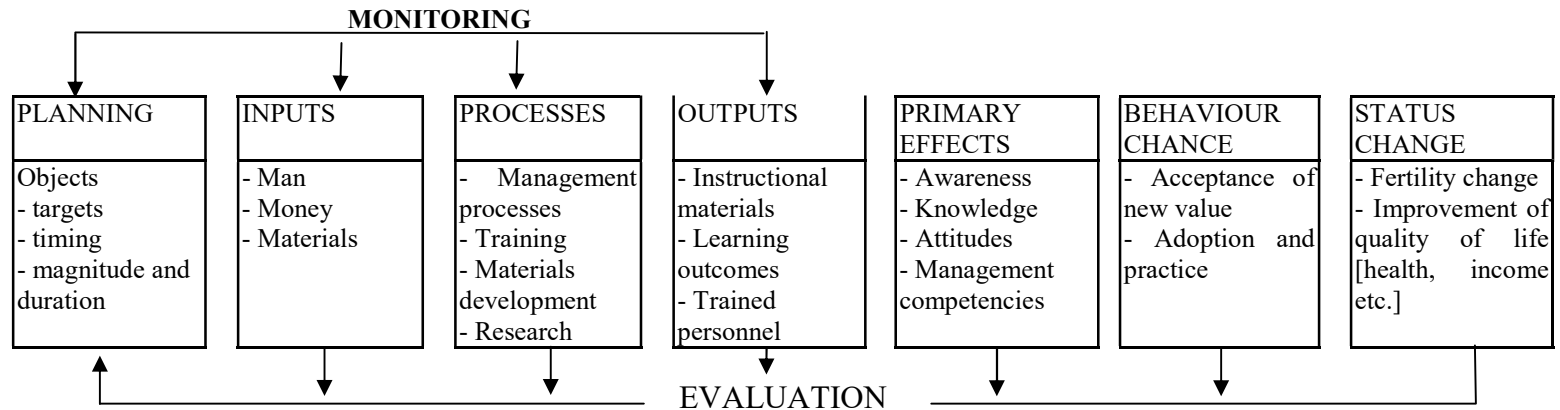
1. T F F T T
2. i. Feasibility
ii. Concurrent
iii. Final
3. See answer from the text

TEST IV

1. F T T F T
2. C Context
I Input
P Process
P Product
3. See answer from the test.

MODE FOR MONITORING AND EVALUATION OF POPULATION EDUCATION PROGRAMMES:

Figure1:



Target

- Children
- Teachers
- Administrators
- Adults

Timing

- Immediate
- Intermediate
- Ultimate

THE CONTEXT INPUT PROCESS PRODUCT (CIPP) EVALUATION MODEL

Figure. 2

	Contest Evaluation	Input Evaluation	Process Evaluation	Product Evaluation
Objectives	To define the operationalized context to identify and access the need in the context and to identify and delineate problems underlying the needs	To identify and assess system capabilities, available input strategies and designs for implementing the strategies	To identify or predict in process, defects in the procedural design or its implementation and to maintain a record of procedural events and activities	To relate outcome information to objectives and to context input and process information
Methods	By describing individually and in relevant perspective two major sub-system of the context, by comparing actual and intended inputs and outputs of the sub-system and by analyzing possible courses of discrepancies between action and intent	By describing and analyzing available human and material resources, solution strategies and procedural designs for relevance, feasibility, and action to be taken	By monitoring the activity's potential and procedural barriers and remaining alert la un-anticipated ones.	By defining operationally and measuring criteria associated with the objectives, by comparing these measurements with predetermined standards on a comparative basis, and by interpreting the outcome in terms of recorded income and process information
Rotation to decision making in the change process	For deciding upon the setting to be saved, the goals associated with meeting needs, and the objectives associated with solving problems i.e. for planning needed changes	For selecting sources of support, solution strategies and procedural designs. i.e. for programming change activities.	For implementing and refining the programme design and procedure. i.e. for effecting process control	For deciding to continue terminate modify or refocus a change activity to other major phases of the change process, i.e. for evaluating change activities.

Source: *Daniel Stufflebeam, Evaluation as Enlightenment for Decision-Making, 1968, P34.*

EVALUATION OF POPULATION EDUCATION PROGRAMME: A SYSTEM APPROACH

Figure: 3

1	2	3	4	5
INPUT	PROCESS	OUTPUT	EFFECT	IMPACT
- Professional expertise of staff	-- Planning and management	- National/Regional plans/ projects	- Planning management competent	- Fertility behaviour
- Administrative support staff	-- Curriculum and materials development	- Curricula materials developed	- Knowledge and attitude of officials	- Economic status
- Government Budget	- Training	- School officiate/ teachers other personnel trained	- Knowledge, attitudes, skills (Teaching learning of trainees and teachers)	- Other changes In quality of life
- UNFPA funding support	-- Research and evaluation	- Completed researches	- Knowledge. attitudes, practice skills of students and field workers	
- Other Funding				
- Unesco's Technical Assistance	- Documentation	- Materials, collected, analyzed and disseminated	- Knowledge attitude, and skills of curriculum writers	

**IMPACTS OF POPULATION EDUCATION
ON SOCIAL SYSTEMS**

Writer: Dr. Zafar Iqbal
Reviewer: Dr. Iftikhar-ud-Din Khawaja

CONTENTS

Introduction	362
Objectives	362
1. Social System	363
2. Impact of components of Social System of Population.	364
2.1 Religion, Ideologies, Beliefs etc.	364
2.2 Customs, Traditions, Values and Attitudes	365
2.2.1 Desire for a son	365
2.2.2 To carry family name	366
2.2.3 Virility and Sterility	366
2.2.4 Established Power Structure	366
2.2.5 Social Security for parents in old age	367
2.3 Social Facilities of Life	368
2.4 Recreation or Modes of enjoyment	368
2.5 Social Class / Social Status	368
2.6 Education	369
2.7 Income	369
2.8 Distribution of wealth and unequal opportunities	370
2.9 Occupation or Profession	370
2.10 Education, Employment and Status of Women	370
2.11 Marriage	371
2.12 Race	371
2.13 Urbanization	372
2.14 Insecurity and Lawlessness	372
2.15 Political Ideology	373
2.16 Modernization	373
3. Conclusion and Suggestions	373
4. Self-Assessment Questions	375
5. Key to Self-Assessment	379
6. References	380
7. Bibliography	

INTRODUCTION

The social structure and value systems of societies have an important bearing on the fertility levels of their people. Studies regarding impact of social factors on fertility have shown that certain factors promote the attainment and maintenance of high fertility levels, whereas others try to keep it low.

Social demography is concerned with relationship between social and demographic phenomenon. It would be recognized that all demographic processes take place within an influencing social context. Most of the demographic theories are basically dependent upon sociological theories. Structural functional approach of Wilbert Moor⁽¹⁾ in sociology offers one of the most promising frameworks for the development of social demographic theory in that it explicitly brings demographic variables into the scheme of sociological theory. Kingsley Davis holds that demographic changes are both “reflexive” and “behavioral”⁽²⁾. They are reflexive in that they affect other components of a social system. They are behavioural in that they are effected by the various subsystems of a social system. Freedman derived a systematic model of social factors that affect fertility⁽³⁾. T.V. Ryabushkin aptly remarked in “social aspects of population structure and Movements” that “Every Social System has its own Concrete laws of population”⁽⁴⁾. The General purpose of this unit is to help the students understand, the impact of those components of social systems that influence fertility in South Asian Countries.

OBJECTIVES

To help students understand:

1. Relationship between social system and population.
2. The components of a social system.
3. Analyse that how the various components of a social system affect the population growth in a society.
4. Growth trends in population of South Asian Countries with reference to their social systems.
5. That population explosion is imbalancing the social system in South Asian Countries.
6. That by bringing positive changes in different parameters of social systems of South Asian Countries, we can overcome the problems of population increase.

1. SOCIAL SYSTEM

“System” is a concept that refers both to a complex of interdependencies between parts, components and processes that involves discernible regularities of relationship and to a similar type of interdependency between such a complex and its surrounding environment⁽⁵⁾. Systems, in this sense, is, therefore, the concept around which all sophisticated theory in conceptually generalizing disciplines and must be organized. This is because any relationship among parts of a system can be adequately understood if the whole complex of multiple interdependencies within a system is taken into account.

In pursuing the study of population, the sociologist often uses the term social system. This idea emphasizes the interdependence of social phenomena. Separate social facts or units are studied as parts of larger, interconnected wholes.

The concept of social system is useful for two reasons. Firstly, it encourages a contextual view of individual and group behaviour. Decisions and activities are seen in context, that is, as conditioned by the social situation.

Second, the idea of social system invites attention to relationships that are not ordinarily visible and for which, there are no common sense names. For example, the interdependence of police and informers constitutes a social system.

Social systems may be smaller or large, stable or unstable. The idea of system encourages the analyst to look for context and connections; it does not tell him what he will find. It cannot be known in advance whether systematic connections will be found or, if they are discovered, how stable they may be. Indeed the most important thing about a system may be its internal stresses and tensions, that is, the sources of instability that are breaking it down or changing it into something else.

Some sociologists avoid the term social system because it seems to them that it cannot be too great an intellectual concern for integration or stability, or an unwarranted prejudice about the existence of stable systems. The main components of social system which may have strong bearing upon population may include attitudes and values, customs and traditions, education, life style of population, recreation modes, income, working hours, ideology, religion, philosophy or belief, morality and ethics, profession, social class, climatic conditions, urbanization and so on.

2. IMPACT OF COMPONENTS OF SOCIAL SYSTEM ON POPULATION

There are a number of components of a social system, which affect population growth and fertility. In the following paragraphs, an attempt will be made to understand the impact of various components of a social system on population growth with special reference to different countries of South Africa.

2.1 *Religion, Ideologies, Beliefs etc.*

Most social scientists would agree that religion is one of the influential institutions in a society and that religious affiliation is an important social characteristic in differentiating human behaviour. Indeed, several generations of sociologists have been interested in the influence of religion on a wide range of human behaviour and in very recent years the scientific study of religion has increased dramatically.

The demographic perspective has numerous points of contact with religious factors. A current topic of interest is the relationship between religious beliefs and family size.

So for the religious or ideological scene of South Asian Countries is concerned, Islam, Buddhism, Hinduism, Christianity and Parsism are main religious or ideologies of the inhabitants of this region. Islam is dominant religion in Pakistan, Bangladesh and Maldives; and Hinduism, Buddhism and Parsism in India, Sri-Lanka and Bhutan.

The major religions of South Asian region do not contain explicit Ideologies with respect to fertility. Traditional belief of most of the people living in this region are pro-fertility. For example when a Brahmin bride bows to her elders, the traditional blessing is "Be the mother of eight sons and may your husband live long". In Pakistan, children are referred to as the blessings of God".

One verse of the Quran on methods of fertility control is not specific and is subject to various interpretations. One verse of the Quran reads, "And do not slay you children for fear of poverty. We give them sustenance and yourselves, too".⁽¹⁶⁾ Some authorities interpret this ban to include prospective children as well as infants already born. On the other hand, one authoritative Islamic stance given by His Excellency Ayatollah as is that from the standpoint of the divine law, the use of drugs or contraceptive fertility does not seem to be illicit of this practice does not damage the female's fecundity and make her barren".⁽¹⁷⁾

Parsis, from religious point of view, are less reproductive as compared to Muslims, Hindus and Buddhists. Even the ethnocentric values have not influenced

them to become more prolific in reproductive behaviour.

So far as the religion of Christianity is concerned, Catholics are against birth control and until recently, governments of many Catholic Countries refused to participate in birth control programmes.⁽¹⁸⁾ Catholics have similar view points as those of protestants, both denounce the population control. However, protestants are less antagonistic towards the family planning and prefer to have smaller families. The catholic religion strongly and explicitly condemns most forms of the birth control.

From the above discussion it is desirable that the agencies working for the population control, welfare and education in this region must take into confidence and involve the religious leaders, philosophers and common unity leaders of the region. They should be required to give possible legitimate new interpretations of the religious truth to curb the population explosion in the light of contemporary circumstances. Religions leaders can mentally prepare the populace in this direction.

2.2 Customs, Traditions, Values and Attitudes

Customs, traditions, values and attitudes prevalent in a social system also have a demographic effect. For example, in a society where joint family is a rule, not only the marriage are arranged by the family but also the sexual behaviour of the individual is very much influenced by his membership in the joint family. To have a child soon after marriage is anxiously desired in such families. The birth of a child is always welcomed, particularly so if it is a boy, for he adds to the strength of the family and its prestige.

Following social values and attitudes of people living in the South Asian region are stated to have a substantial effect on fertility and population growth:-

2.2.1 Desire for a son

Desire for a son is a universal phenomenon and is particularly strong in the feudal and tribal societies of South Asian Countries. Son preference automatically increases the number of children the women bear. Son preference is more pronounced amongst men than women. The women who produces a series of daughters, is often rejected, although it is an accepted genetic fact that it is man who delivers the sex of child. However, it is also true that women gets recognition in family after the birth of a son.

Son preference affects family size to a considerable extent. A large number of couples in this region usually go on trying until they have a son. One can even observe that a family with seven or eight daughters will

still go on trying for a son. This attitude offers a challenge for population education. People must be educated positively so as to eradicate this attitude of son preference from their minds and behaviours. Educating the masses by slogans like “daughter is gift of God Almighty” through mass media, as it is being done by Pakistan Television now-a-days, may contribute a lot in this direction.

2.2.2 To Carry the Family Name

This is an important social requirement which is expected from the newly married couples. It is not only a psychological and sociological compulsion, but it makes good economic sense as well. Traditionally, the son inherits not only the name of his father but all his property and belongings. Not to have at least one son would mean losing all the property to other people or families. To carry the family name is also related to the status of women in society, she has very limited property rights in terms of inheritance. The demand for at least one son per couple is deeply rooted in our value system, and will remain latent in the fertility behaviour in our region. In wealthy families, demand for carrying the name may be higher than in poor families.

2.2.3 Virility and Sterility

In developing societies such as Pakistan, one of the social requirements is that a man must prove that he is potent and procreate at will. The pressure on the male is great, because the society has established that to procreate is not only normal but desirable. The pressure upon a female is ever greater because of her status in the household and society. To be ‘sterile’ for a woman is probably worse than to be ‘untouchable’.⁽²¹⁾ In Muslim societies, for a female not to be able to bear children may increase the incidence of bigamy or polygamy.

2.2.4 Established Power Structure

The male numerical strength of a household, family caste or a Braderi is extremely important in settling disputes in developing societies of South Asian Countries. The disputes related to property or land, monetary or financial matters and conflicts arising from social, cultural or religious differences are usually settled in accordance with the norms of the established power structure which is well defined and highly visible in the rural areas. However, power structure is less visible but established and effective in urban communities in form of “Baraderi” System. Other than the economic power, the male numerical strength is the most important

determinant of the power structure.

The important role of this male numerical strength is directly related to the relatively weak administrative and judicial system that exists in the most of the developing societies. In such countries, the law enforcing agencies and governmental administrative machinery are basically the custodian of the rights of the elite of the society. Therefore, the population belonging to lower economic strata does not rely upon the law enforcing agencies for the protection of its rights or seek justice by the due process of law.

Thus, the demand for male members needed to enhance the numerical strength of a household seems to be an important determinant of fertility for South Asian Countries.

2.2.5 Social Security for Parents in Old Age

Social-cultural values and attitudes towards parents and old people in the societies of South Asian Region are another matter of great concern for both the social scientists and demographers of this region. Large number of successful children are always a source of great sense of achievement for parents in old age. Generally speaking, the old parents are the traditional responsibility of the boys (sometimes shared and assumed by daughters also) in the family.

It is generally accepted that in South Asian societies, where the costs of rearing children are extremely low and the benefits from them are high, it makes economic sense for parents to have many children. In South Asia, nearly 90 percent of parents rely on their children to support them in their old age. For most, immediate cost of raising children is minimal comparing their need for support in old age. Thus children seem to be the best possible annuity. For women, the compulsion is even greater, because they, more so than men, look to children for support in old age, sickness, divorce, separation, illness of husband and widowhood. Further, the present status of women in developing societies, which is extremely low, dictates less opportunities for education and employment. The traditions and customs are biased against women in protecting their rights concerning inheritance, marriage, divorce and property. Thus women seek obvious insurance against the risk to have several children (in particular, sons). Such social set up is most likely to raise fertility. Men seem to have similar compulsions for social security at old age, insurance against incapacitating sickness. But his desire to have more children (or sons) may be more influenced by the other determinants, such as to enhance male numerical strength of a family, to combat insecurity and lawlessness, or to capture his economic share resulting from the existence of unequal distribution of wealth and unequal opportunities for progress.

2.3 *Social Facilities of Life*

Non-Provision of better facilities for life to masses has also an alarming effect on population growth of the South Asian Countries. The available evidence, though unfortunately limited, shows that people enjoying the better facilities of life, good housing, better health facilities, lighting facilities etc. have smaller families as compared to those who do not have adequate social facilities of life. Viscount Soulbury, Ceylon's former Governor General once said "He who goes to bed early to save candles begets twins"⁽²³⁾. He advised his Prime Minister, to introduce electric lighting to the villages to counter the population rise. In an opening speech to an international planned parenthood conference, late Prime Minister of India Nehru announced "I was told only today about the possible consequences of, let us say, electricity going to rural areas... the period for which they can work or amuse themselves or do other things is enormously lengthened and thereby, indirectly perhaps, it affects the family planning business".⁽²⁵⁾ It has been proved through different population studies of the region, and one can observe also, that people living in slums, congested houses, and in rural areas usually have more children as compared to the persons living in posh areas having access to every facility including luxuries.

2.4 *Recreation or Modes of Enjoyment*

A large variety of researches conducted in the field of demography indicate that one of the dominant social factor for the large families of poor and lower class people is lack of desired recreation and entertainment modes available to them. They find their spouse as the sole source of entertainment, enjoyment and recreation tempting to high sexual frequency with spouse which proves to be an antecedent to increased fertility. The entire complex may be expressed in a saying "procreation is the poor man's recreation". A Vice President of India once publically commented that "Sex is the only indoor sport open to us, and large families are produced because of it. It is the poor people that produce large families and not rich ones."⁽²⁶⁾ Provision of mass scale recreational facilities and sports activities for poor people in the South Asian Countries may be the suitable solution of the problem. There is a notion in the west that night baseball may substitute the sex. Educating the poor people in manner which will enable them to sublimate their sexual urge into channels of such activities which are productive for the community may serve as another alternative in this regard.

2.5 *Social Class / Social Status*

Irrespective of other variables, differential rates of births have been calculated in each region of world with respect to social class as measured by

education, occupation, income or combination of these factors. Upper social class has smaller families as compared to middle class which in turn has smaller families in comparison to lower class people. This is probably due to higher education, better income and white collar occupation of the upper class. It is usually argued that the lower social classes want to have many children or they do not care how many they have. In the face of such values and biological drives, birth control programmes are doomed to failure, and might even increase to immortality of these classes. Large families is the desired state of affair with lower classes.

2.6 Education

Education, as a social factor, plays a vital role to curb the populating growth. Education and specially the higher education usually associated with decline in number of children desired. This more effective when husband and wife both are educated, specifically highly educated. Educated persons usually desire and have small families mainly on account of following three reasons.

1. An educated public is health conscious. Through newspapers, magazines and other mass media, the educated populace become convinced to have smaller families keeping in view the future economic and health needs of the children.
2. Among educated populace, marriage is usually delayed and this usually results in low fertility rate.
3. Educated people are usually not traditionalists. They become convinced from the programmes of population welfare agencies, and they do not hesitate to use birth control measures especially when their number of children expected increase from three or four.

2.7 Income

It is how a well established fact that people with more income usually want fewer children and vice versa. It must be mentioned here that the classical economists like Adam Smith and demographers like David Mc Clelland are of the view that economic growth leads to population growth. But this theory was put forward at a time when population increase and economic growth were moving forward side by side. But low of plausible correlation seems to reflect a reverse law of human behaviour, rising income and wealth is associated with declining birth rates. This is not only true for individuals but nations also. It has been observed that developed countries with greater wealth have lower birth rates.

2.8 Distribution of Wealth and Unequal Opportunities

The pattern of distribution of wealth in the South Asian Countries provides unequal opportunities for economic progress for the majority of the population. Thus, a common person sees little opportunity to fulfill his innate desire to be well off and accumulate wealth by himself. Therefore, he substitutes children for wealth. His strategy is quite simple. It costs him very little to be a father and he would raise them by whatever means available to him in his social set up. He sees his children as helping hands or income earners. He rationalizes, unconsciously, that when he has a lot of children, only then he will be able to accumulate wealth. Or at least, he will be able to raise his standard of living and consequently his status in the community. Clearly, more children seem a good way of getting rich and raising one's status in the society. Thus, inequality in the distribution of wealth and the difference in the levels of living of the rich and poor, aggravated by the unequal opportunities for economic progress for different classes of the society, seem to effect the demand for children and the fertility in developing societies.

2.9 Occupation or Profession

Fertility and occupations are highly associated. If we compare the change in birth rates by occupational categories, we note distinct patterns of families for different occupational groups. According to the various researches in the field, persons with white collar jobs have relatively small families while unskilled labourers (the lowest category in occupational pyramid) usually have larger families. Semiskilled and skilled workers have average families.

Differentiating patterns of families of white collar job holders and of the unskilled labourers is probably the effect of education recreation, modes and income of the persons holding these occupations. Further, education of wives of the persons in upper categories profession also seems to be a factor for their small family size.

2.10 Education, Employment and Status of Women

Several studies have shown that fertility is inversely correlated to education and employment of women. Perhaps the most important reason is the diversification in the activities of educated or employed women. Education of women in Pakistan and Bangladesh is known decisively decrease fertility.

The employment of women outside the home constitutes one of the most likely factors of a desire for small families. Such employment often entails satisfactions alternative children (because of availability of companion-ship, recreation, stimulation and creative activity), or the means to such satisfactions in

the form of financial remuneration. Increasing trend of working wives in South Asian Countries may be helpful to decrease the birth rates to some extent.

Closely associated with the employment of women is the issue of status of women. The South Asian women particularly those belonging to feudal families gain real acceptance only after the birth of a child and in most cases with the birth of a male child. A lot of girls of rural areas suffer from deprivation and lack of exposure to any information on matters outside the home. Women's right to inheritance and possession is almost completely denied to her and the worst part of it is that she has been trained to believe that her greatness lies in surrendering her legal right to inherit from her parents property. The woman, even an educated urban woman, is, sometimes, not permitted to participate in decision making in either the family or the community. Her low socioeconomic status caused by such social traditions and attitude towards financial matters coupled with the lack of education and exposure has created a deep sense of insecurity among woman folk of the region.

It can be concluded that by educating women and safeguarding their employment and giving them their due status in the society may be much helpful in decreasing the size of the family in the South-Asian Region.

2.11 Marriage

Marriage is considered as an obligatory social duty of every man and women in almost all the countries of South Asian region. Not only this but marriage is also presumed beneficial to emotional health and offers the advantage of family care to a spouse in case of illness and in old age. Marriage at early age is preferred and postponement of marriage specially that of a girl is hated by the established social norms. This causes automatically the possibility of greater number of births due to the greater number of marital years. The number of children of a woman goes on decreasing as the age at marriage increases. A shift to later age for marriage, other things equal, independently brings a reduction in fertility. According to the findings of the researches conducted in this respect, the proportion of childless wives mounted very rapidly as age at marriage increased. Results of different studies also indicate that women who were married between the ages of 35-39, have some impairment of fecundity of whom one half are definitely sterile.

2.12 Race

Race is a most ambiguous, controversial and explosive concept the world over. It is also one of the major demographic variable. From biological point of view, racial identity is a physical fact that neither the individuals nor society can

alter. It is a matter of biological inheritance. In South Asian Countries, the proportion of populations belonging to different races and racial groups is very important, especially from political point of view. Tribal races in the region usually intend to have more children because of their existence as a tribe or race. Tamils in India and Sri Lanka, Pathans and Mohajirs in Pakistan (Muslims migrated from India to Pakistan 1947) , and Nepalese in Bhutan usually desire to have greater number of children because of specific reasons.

2.13 Urbanization

Irrespective of other factors, urban fertility in the South Asian countries, like whole of the world, has always been lower than the rural. Very often, the decline in the birth rate was the greatest in the big cities. It has been pointed out that urban living conditions favour smaller families in a number of ways. City apartments apparently permit expansion less comfortably than joint family house (Havilis), typical of villages and farms. Children are more expensive to rear when every thing has to be bought from the markets. In rural areas, minors help their parents from a very young age, whereas under urban conditions, parents get no financial return on their investment in the offspring. In urban areas and cities, women are more likely to find alternative roles to being a house wife and thus to postpone procreation, or even to put it off altogether. Perhaps non-marriage occurs more in urban areas because these areas depend less upon kinship and the family as basis of social organization.

In rural areas, where the family is a productive unit, marriage is a high value for the individual. The postponement of marriage is a social trait of urban areas of the region. The necessity of lengthy training for skilled positions in the urban society and the necessity of economic self sufficiency on the part of newly married couple lead to marriage postponement. Further more, family life is less cohesive and plays smaller role in the city. The urban adult tends to be involved in a broad range of outside interests and activities that draw him away from home. A large family would interfere with these urban pursuits. In judging the probable weight of these factors, it is easily understandable that why the birth rates of urban areas are less than rural areas.

2.14 Insecurity and Lawlessness

Another factor that seems to promote higher fertility is related to the general law and order conditions prevalent in the developing societies. The general lawlessness in a community, which produces a feeling of threat to life and property of the common citizenry, may induce common man to adopt private means for self protection. Most of the population in the developing countries have very little faith in their police, law and justice systems. The escalating rates of

crimes; such as armed robberies, theft, murder, kidnap, narcotics and violence, creates a general feeling of insecurity among the members of community. The persistent feelings of insecurity for long durations, causes the psychic mechanism of people to click them to have larger families. Unconsciously, many people may see a large family as a compensation for the lack of police protection and non-availability of justice.

2.15 Political Ideology

Throughout the world, it is common that the individuals, groups and governments having a belief in nationalism tend to favour procreation. On the other hand, those holding the political ideology of capitalism and democracy are usually in favour of family planning. This is because the nationalists, Marxists and socialists believe that a large population is, probably, a necessary condition of power and development. To them, giant armies and industries both require large population bases, and total national product of a nation is greatly influenced by the sheer weight of numbers. Luckily, in South Asian countries there are not too many individuals or groups who hold the political philosophy of Nationalism and Marxisms. Hence, this factor has not been so much effective in population growth of the region.

2.16 Modernization

Everywhere in the world, modernization has had an abiding and drastically downward effect on family size desire. Modern people prefer small families because of a shift in age at marriage, changes in patterns of child earning and mental acceptance for the use of contraceptive techniques for birth control. Modernization also provides the sources of satisfaction to the people in general, which prove to be as alternatives and substitutes to the marital sexual satisfaction.

3. CONCLUSION AND SUGGESTIONS

Social system and its components have a strong bearing upon fertility and every social system has its own concrete laws of population. A better understanding of population composition and changes may be expected various components of social system. A handful of research studies have been conducted on the interrelationships in the South Asian Region. These views theories and research studies indicate that social factors like religion, law, income, lower social class, low literacy rate, lack of recreation and modes of enjoyment, non-availability of facilities of life, early marriage age, insecurity and lawlessness, desire for a son, unequal opportunities and joint family system are the main causes of increasing birth rates in the region. On the other hand, reverse of these

factors along with urbanization, modernization, education and employment of women and democracy, as political ideology, are among the social factors which cause a decline in the birth rates. This may lead us to suggest that if the societies of the South Asian countries are serious in curbing the population explosion in the region then they should:

- i) Educate their populace to the maximum possible extent with at least target of 5% increase in literacy rate per year.
- ii) Minimize the gap between the social classes.
- iii) Provide the recreational and other facilities of life to lower classes.
- iv) Give special attention to the education and employment of women between social system and population change.
- v) Give the women their due status in the society.
- vi) Eradicate the sense of insecurity from the minds of persons by controlling the lawlessness generally prevailing in the society.
- vii) Promoting democracy in the society.
- viii) Educating the people to have smaller families for better national future.

It can be further concluded that the institutional frame of reference is the major factor influencing fertility behavior in our region especially in Pakistan and Bangladesh. Empirical studies completed in the neighboring India and Bangladesh, show a significant and consistent relationship between fertility and social determinants. Fertility which is accepted to be based upon interrelationship between the individual decision process and his social frame of reference, seems to be floating upon a flux of many parameters, variables and unknowns. For different South Asian Countries these social determinants are different and they seem to be influencing fertility with varying degree in different stages of development of a specific country. Though the impact of social system is significant on population trends, however, we should take care not to overemphasize any particular trial or social characteristics when classifying the people in a specific society for demographic purposes.

4. SELF ASSESSMENT QUESTIONS

Q. No.1	Each statement/explanation given below provides the description of a specific concept discussed in the unit. Write down the specific term of that concept of which the description most appropriately is associated in the space provided in the beginning of the description.
1.	_____ it is well defined and highly visible in rural areas. It is less visible but established and effective in urban communities in the form of “Bradari System”.
2.	_____ is the poor man’s recreation.
3.	_____ is considered as an obligatory social duty of every man and woman in almost all the countries of South Asian Region.
4.	_____ is a physical fact that neither the individuals nor society can alter, it is a matter of biological inheritance.
5.	_____ is the concept that refers both to a complex of interdependencies between parts, components and processes that involve discernible regularities of relationship.
6.	_____ may be conceived as consisting of two facts, demographic analysis and population studies.
7.	_____ it emphasizes the interdependence of social phenomenon. It may be small or large stable or unstable. In it social facts or units are studies as parts of larger, interconnected whole.
Q.No.2	Fill in the blank with most appropriate words / figures.
1.	Social system encourages a contextual view of individual and group _____.
2.	The average family size of persons with white collar jobs in urban areas in the South Asian Countries is _____.
3.	The South Asian Woman particularly one belonging to _____ family gains real acceptance only after the birth of a child and in most cases with the birth of a male child.
4.	There is a notion in the West that _____ may substitute the sex.
5.	Large families is the desired state of affairs with _____ classes.
6.	Delayed marriage usually results in _____ fertility rate.

7. Results of different studies indicate that women who were married between the ages of 35-39 had some impairment of _____.
8. In rural areas where the family is a productive unit _____ is a high value for the individual.
9. Number of days of sexual abstinence for religious reasons mentioned by the individuals in Mysore (India) ranged from _____ to _____.
10. Catholics have similar view points as those of _____ both denounce the population control.
11. The demand for at least one son per couple is deeply rooted in our value system, and will remain latent in the _____ behaviour in our region.
12. In societies such as Pakistan to be sterile for a woman is worse than to be _____.
13. Large number of successful children are always a source of great sense of achievement for _____ in old age.
14. Old parents are traditionally the responsibility of _____ in the family.

Q.No.3 **In the questions given below, four probable answers have been provided and only one is the correct answer. Encircle the correct answer.**

1. Close affinity between sociology and demography is largely a product of the last.
 - a) One to two decades.
 - b) Two to three decades.
 - c) Three to four decades.
 - d) Four to five decades.
2. Who stresses functional theory in sociology as most relevant to demography and envisages population as an endogenous variable in the analysis of social system.
 - a) Duncan
 - b) Freedman
 - c) Kingsley Davis
 - d) Moore
3. The majority of least educated monks and priests of Buddhism.
 - a) Say nothing directly upon the subject of contraception.

- b) Consider use of contraception for birth control as fruitful.
 - c) Usually assert that preventing the birth willfully tantamount to killing.
 - d) Consider preventing the conception as un-natural and sinful.
4. From religious point of view which one of the following are less reproductive.
- a) Muslims
 - b) Hindus
 - c) Buddhs
 - d) Parsis
5. According to genetic facts who delivers sex to the child.
- a) Man
 - b) Woman
 - c) Both man and woman
 - d) Nature
6. Who is of the view that demographic changes are both reflexive and behavioural.
- a) T.V. Ryabushkin
 - b) Wilber Moore
 - c) Kingsley Davis
 - d) Freedman
7. The average family size of the skilled labourers in Urban areas of South Asian Countries is
- a) 3.5
 - b) 4.1
 - c) 5.2
 - d) 5.4
8. In the light of findings of various researches conducted in connection with the relationship of fertility rate and social security for parents in old age, please identify whether social security:
- a) Effects the fertility rate positively.
 - b) Effects the fertility rate negatively.
 - c) Seems to be empirically dubious.
 - d) Has not been investigated by any agency in South Asian Countries.
9. To whom the significant sentence “He who goes to bed early to save candles begets twins” is associated in literature.
- a) Nehru

	b) Viscount		
	c) Gain		
	d) Robins		
10.	Which of the following factors causes high fertility rate.		
	a) Lower social class		
	b) Urbanization		
	c) Modernization		
	d) Education of women.		
Q.No.4 Below have been given certain factors which have a bearing on fertility rate. Encircle "A" if the respective factor cause increase in fertility rate of people and "B" if it decreases the fertility rate.			
1.	Modernization	A	B
2.	Democracy as political ideology	A	B
3.	Lack of recreation	A	B
4.	Availability of facilities of life	A	B
5.	Tribal race	A	B
6.	Higher Education	A	B
7.	Lower income	A	B
8.	Urbanization	A	B
9.	Employment of Women	A	B
10.	White collar jobs	A	B
11.	Education of women	A	B
12.	Catholic as a religion	A	B
13.	Lawlessness in society	A	B
14.	Desire for a son	A	B
15.	Joint family system	A	B
16.	Marxism as political ideology	A	B
17.	Upper social class	A	B
18.	Unequal opportunities	A	B
19.	Early marriage age	A	B
20.	Irreligiousness	A	B

5. KEY TO THE SELF ASSESSMENT QUESTIONS

Q.No.1	1)	Power structure			
	2)	Procreation			
	3)	Marriage			
	4)	Racial identity			
	5)	System			
	6)	Demography			
	7)	Social system			
Q.No.2	1)	Behaviour	2)	2.7	
	3)	Feudal	4)	Night baseball	
	5)	Lower	6)	Low	
	7)	Fecundity	8)	Marriage	
	9)	2 to 200	10)	Marxists	
	11)	Fertility	12)	Untouchable	
	13)	Parents	14)	Boys	
Q.No.3	1)	d	2)	b	3) c
	4)	d	5)	a	6) c
	7)	b	8)	c	9) b
	10)	a			
Q.No.4	(A):	3, 5, 7, 12, 13, 14, 15, 16, 18, 19.			
	(B):	1, 2, 4, 6, 8, 9, 10, 11, 27, 20.			

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POPULATION AND ENVIRONMENT

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CONTENTS

	Page
Introduction	387
Objectives	387
1.2 The types of environment	388
1.2.A Energy	388
1.2.B Atmosphere	388
1.2.C Water	389
1.2.D Soils	391
Alluvia soils	391
Regosals	391
Lithosals	391
Andosals	391
Podzol soils	391
Latosals	391
Crumusals	392
Grey hydrimorphic soils	392
1.2.E The Biotic Environment: Flora Fauna	392
Plants in human society (Fauna)	392
Animals in human society (Fauna)	393
1.2.F Oceans	393
2. ECOSYSTEM AND BALANCE IN NATURE	395
2.1 The Origin of the ecosystem	395
2.2 The structure of the ecosystem	396
2.3 The Function of the ecosystem	396
2.3.A Energy flows in ecosystem	397
2.3.B Chemical Cycling in ecosystem	399
2.4 Biomes : Major and Ecosystem	400
2.4.A Arctic and Alpine Tundras	400
2.4.B Taiga and Temperate Rain Forest	400
2.4.C Tropical Rain Forest	401
2.4.D Temperate Deciduous Forest Deciduous	401
2.4.E Tropical and Temperate Grasslands	401
2.4.F Tropical and Mediterranean Scrub Woodland	402
2.4.G Desert	402
2.4.H The aquatic ecosystem	403
2.4.I The marine ecosystem Balance in ecosystem	403
2.5 Balance in ecosystem	403
3 ENVIRONMENTAL POLLUTION	405
3.1 Properties of Pollutants	406
3.1.A Toxicity	406

3.1.B	Persistence	406
3.1.C	mobility	406
3.1.D	Concentration	406
3.1.E	Controllability	407
3.2	Types and Factors of Pollution	407
3.2.A	Air Pollution	407
3.2.B	Water Pollution	409
3.2.2.2	Effects of water pollution	412
3.2.C	Noise Pollution	413
3.2.3.1	The effects of noise	413
3.2.3.2	Noise Control	414
4.	ENVIRONMENT & POPULATION EDUCATION	415
4.1	Characteristics of environment & Population Education	415
4.2	Teacher's Training	416
4.3	Students Activities	417
5.	SUMMARY	419
6.	BIBLIOGRAPHY	419

1. INTRODUCTION

World's population is growing rapidly. At the beginning of this century the world population was estimated at 1.6 billion. Between 1950 global population doubled from 2.5 billion to 5 billion people. While the world population is expected to rise to 8.467 billion by 2025.

It is truism that increase in population has adversely effected the environment. Population growth means increase in the demand for consumer goods, to meet this demand new industries are setup and the use of natural or artificial resources in these industries pollutes the environment. Thus, the basic cause of environmental pollution is not the rapid pace of present day industrialization but the rapid growth of population. It is generally agreed that there is, at present and environmental crisis, i.e. shortage of resources, pollution of environment, destruction of wildlife and natural beauty.

At a superficial and immediate level, legislation can mediate and reduce pollution and to some extent conserve natural ecosystem. But for a relatively permanent remedy, a basic reappraisal of the population and environment relationship is required and without a through understanding of population and environment, this purpose cannot be achieved. For humanity, a clean and highly natural environment in a major objective, which can take place as a result of an educational revolution in which the population and environment relationship becomes the central theme of all the education.

This unit contains a description of the working of the natural environment and a discussion of the various ways in which human population interfere with it.

1.1 OBJECTIVES

After studying this unit you are expected to be able to:-

- i) Understand ecosystem and balance in nature.
- ii) Conceive that environmental resources must be husbanded as these have been greatly exceeding misused by man.
- iii) Understand why there is pollution problem.
- iv) Identify the degree of seriousness of different kinds of pollution.
- v) Find out that environmental problems are interrelated.
- vi) Analyse the content of population growth and environmental control and its problems.
- vii) Outline the inroads man is making on the natural environment.
- viii) Explain the major implication of current practices for the disposal

of toxic waste.

- ix) Give a set of criteria which may assist the classification of pollutions.
- x) Understand the relationship between population and environment.

1.2. The Types of Environment

Ecology is the branch of biology dealing with living organisms habit, modes of life and relation to its surroundings. The region of the earth and its atmosphere in which life exists is called biosphere. While the environment refers to surrounding, and conditions influencing development or growth. Simply, all those basic things that effects our development are called environment, and a system comprising the earth's living things and the thin global skin of air, water, and soil which is their habitate is called "ecosphere".

The environment may also be considered a kind of nonreproducible capital good that produces a stream of various services for man. These services are tangible (such as flow of water or mineral), or functional (such as removal, dispersion, storage, and degradation of wastes or residuals), or intangible (such as smoking chimney).

It appears that the environment will only function smoothly if the demand made on its services does not exceed its output. Thus, the smooth functioning of the environment of human population is consists of (1) Energy (2) Atmosphere, (3) Water, (4) Soils (5) The biotic environment: flora and farina, (6) the oceans.

1.2.A Energy: Energy is the prime mover of the universe and it sources is either sustained or exhaustible. The sustained energy does not undergo any appreciable loss in supply because of use. Sources of such energy are, radiation from sun and mechanical energy of falling or moving water, internal heat of the earth (giving geothermal power). However, except for hydro electric power, all sustained sources of energy hold limited scope because of the every high cost of harnessing them.

The exhaustible resources included fossil fuels, oil, coal natural gas, which have been and still are principal sources of energy.

1.2.B Atmosphere: The earth's atmosphere envelops the planet and is made up of number of zones or layers, each with its own characteristics. There are boundaries between the zones which still require further study. Nearest to the earth's surface is the troposphere, containing the clouds and in which weather patterns are affected. Most of the water that vapour in the whole atmosphere is found in this zone.

Surrounding the troposphere is stratosphere and its chief characteristics is its constant temperature i.e. it is isothermal. A layer characterized by ozone, in which temperature increase with outward distance upto 50km, then progressively decrease up to 80 km, is called the mesosphere. Beyond the mesosphere is the ionosphere where the temperatures reach very high values as elevation increases towards the outer limits of the atmosphere.

The gaseous components of the earth's atmosphere are known as air. The gases which profoundly affect living systems are oxygen, carbon dioxide and nitrogen. Other variable constituents of air, that should be considered in relation to our environment are summarized as in the table1.

Table 1

Variable constituents of the air of the natural origin (excluding weather vapour).

Meteoric dust (from other parts of the universe).
Sodium Chloride (chiefly from seas and oceans: salt lakes).
Airborn soil (wind storms over dry land areas).
Nitrogen Dioxide (lightening Hashes, electrical discharges).
Sulphur Dioxide
Hydrogen chloride
Hydrogen fluoride of volcanic origin
Hydrogen sulphide (sulpher bacteria of vatanic origin)
Ozone (by photochemical action; electrical discharges)
Pollen (from all forms of phanerogams, chiefly grasses)
Fungal spores
Bacteria
Viruses

1.2.C Water: The hydrologic cycle and relationships between water and organisms are basic to an understanding of water as an environmental factor vital to all forms of life. World distribution of water relates to the distribution and densities of human populations. The quality of water affects the health of man.

About 75 percent of the earth's surface is covered with water. The oceans and seas comprise about 97 percent of this and about 2.15 percent occurs as ice in the polar ice caps and glaciers. The rest is made up primarily of underground water, surface water and atmospheric water-vapour, in order of decreasing

amounts. Of the total, only about 0.01 percent occurs as atmospheric water vapour at any given time amounting only to an average of 25 millimeters of rain over the entire surface of the earth.

The principal pathways of water throughout the major parts of the earth are collectively referred to as the hydrologic cycle.

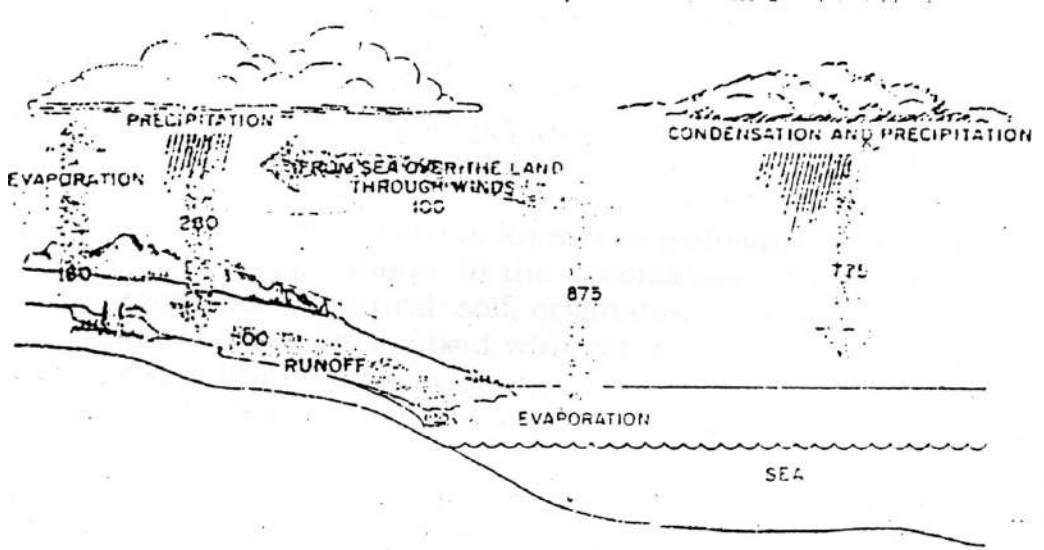


Fig. 5.1

The movement of water from the surface of the earth to the atmosphere occurs by evaporation, when this evaporation occurs from plants, it is termed as transpiration. The first phase in the return of the water from the atmosphere to the surface of the earth by precipitation is its conversion from water vapour to liquid by condensation. This occurs when the relative humidity of the air reaches 100 percent, or the dewpoint, or the water falling, or rain, or heavy mist (fog). Precipitation results from condensation, but condensation does not necessarily lead to precipitation. Clouds may form and dissipate without precipitation; but when the moisture droplets (or crystals) reach the size where the air can no longer support, then precipitation occurs.

Human population survive upon the free waters of the hydro-sphere for his ever-increasing demands for agricultural development and productivity provision of domestic and industrial water supplies, production of hydro-electric energy, protection against floods and sea-water intrusions, inland and coastal area navigation, improvement of fisheries and fish productivity, etc.

At the total amount of water resources approximates to 136 x 710 cubic kilometers. Of this amount 99.35 percent is in the oceans, ice caps and glaciers.

And of the remaining 0.65 percent, half is as subsurface water. Hence, human populations must use water resources properly and the conservation measures are needed for the water which is available to us as rain (precipitation), in the rivers, streams, lakes and from underground sources. 1.2.4 Soils: Wherever human populations have had been able to develop natural soils in terms of improved fertility, farming, land use for, settlements civilizations were established and extended. Soils are an intrinsic factor in the development of natural ecosystems, including those involving human populations.

The scientific study of soil is known as pedology. Soil results as a product of two operations: (i) the decomposition of rock, (ii) the decay of organisms. Natural soil originates as unconsolidated mineral material. It is later mixed with varying amounts of organic materials arising from the decay of organisms that have lived either within the developing soil or on its surface.

Soil is a complex system that provides mineral elements, water and soil air for all kinds of plants growing in or on it. The characteristics of soil are: soil types, texture, soil water, soil air, soil organisms and organic matter. We will discuss here different types of soil.

1.2.D. Alluvial Soils: Alluvial soils do not exhibit prominent horizon development as they are developed from water deposited sediments. These soils are mostly acidic, greyish in colour and are poorly drained. In Asia these soils are formed in river basins, flood terraces, flood plains and deltas and are a familiar sign in the Indo-Gangetic Plains of India.

Regosols: The regosols are developed from unconsolidated materials like volcanic ash, marls and sand dunes and thus, do not have a well-developed profile. Regosols are found in the coastal areas of Asia as well as in the desert areas of Pakistan and India. They are also common in volcanic ash in most of the islands of Indonesia and the Philippines.

Lithosols: Lithosols are shallow soils found on steep slopes where there has been limited weathering of the underlying rocks.

Andosols: Andosols found commonly under forests are acidic in reaction and are well supplied with nutrients. In Indonesia and the Philippines, they have been detected on volcanic ash under humid conditions in mountainous areas.

Podzol Soils: Podzol soils which are acidic in reaction and coarse in texture are also found under forests. In Asia, where there is an accumulation of much organic matter humus podzols are of frequent occurrence.

Latosols: Latosols include all the soils which are deeply weathered and strongly leached and which show no horizon differentiation. They include all the lateritic soils ranging in colour from red to brown to yellow. Latosols which have acidic in reaction occur extensively in Taiwan and India,

Grumusols: Grumusols include the dark clay soils which are generally poor in organic matter but rich in clay content and the latter is a uniform feature throughout the profile. As these soils exhibit plastic properties when wet they tend to produce deep cracks with changes in moisture content.

Grey Hydromorphic Soils: These soils are commonly referred to as low humid gleys. These hydromorphic soils are not uniform in distribution but appear in patches in most of the tropical Asian Countries.

Activity No.1 Examine physically and chemically few samples of soil from different areas

1.2.E The Bio tic Environment: Flora and Fauna

Growth in population demands for additional food, fibre and timber etc, have resulted in greater use of land and water, with important alterations in the habitats of wild animals.

Plants in human society, (Flora)

Utilization of plants for more than a mere supply of goods began earlier in colder regions. All important world civilizations have been known to be associated with one or other of the cereal plants. For example, wheat was the characteristic cereal that permitted civilizations to develop was rice. There are twenty-four known species of rice, twenty-two being wild and two cultivated. Wheat is another most widely cultivated plant and is known to have been cultivated in India and central Europe since 4,500 years ago. Maize is now widely cultivated in all tropical, subtropical and warm temperate regions of the world.

Other food crops that need mention include cassava, potatoes, squashes, legumes and some vegetables. They are mostly warm season annual. Most oil-producing crops of today are also grown in tropical, subtropical, and to some extent, warm temperate regions of the world. Many plants are now cultivated for medicine as well as desirable luxuries. Despite the fact that rubber-tree is a native of South America, very little rubber comes from that region. It is now cultivated almost exclusively in South-East Asia, the Congo and Western Africa and with the major share of the world being produced by Malaysia and Indonesia.

Since most of the cultivated plants are tropical and subtropical in origin,

their agriculture possibility started very early in South East Asia between 13000 and 9000 B.C., and then spread outward to other regions.

Animals in human society: (Fauna)

This is evident from the Mayan and Incan civilizations of America that in contrast to large scale cultivation of plants, only a few species of animals were domesticated. Early usage of animals was mostly for food (meat and Milk). Soon their bones were used as tools and ornaments and their skins as cloths. Some animals such as cattle, horses, donkeys, camels and elephants were also used for transporting man and his goods. Despite plant cultivation, domestication of animals proceeded rather slowly at first. About 2000 B.C. animals were known to have been domesticated.

Gradually, the growth in human demands for additional food, fibre and timber, etc. resulted in the habitats of wild animals. To suit the needs of growing population, man has replaced more stable biological communities with less stable man-made ones. Similarly, the creation of national parks in eastern and central Africa, primarily for conservation of native ungulates and tourist attraction, has created special problems. Through over-grazing elephants have caused destruction and retreat of the forest in some areas. In many places, human population has destroyed many forests to claim timber and land for housing and agriculture. Hence, here is a great need on the control of population growth to balance efficiency against safety and stability.

1.2.F The Oceans

The oceans cover 71 percent of the earth's surface, if they were evenly distributed, they would cover the entire earth about two miles deep. The salinity of the ocean, climatic and geographic difference, influx of fresh water from rivers and melting ice: ocean currents, differential evaporation at various latitudes are some of the elements that shape the characteristics of an ocean.

The salts consists of chlorides of sodium, magnesium, calcium and potassium of which common salt (NaCl) is widely used. Sea-water also contains carbonates. Nitrates and phosphates exist in small quantities but are of great importance in the chemical ecology of the ocean.

Tropical seas have higher salinity than temperate ones, owing to greater evaporation. Below a depth of about 300 meter the ocean's salinity is almost constant i.e. about 3.5 percent.

Besides salts, temperature is also a physical factor of great ecological importance in the ocean as well as on land. The continual circulation of the oceans and their enormous heat capacity help to maintain a general low temperature variation in the sea despite geographical and seasonal differences in

absorption and radiation of heat. The greatest seasonal variation in temperature (8.C to 20.C) have been recorded in the China Sea and the Block Sea.

Another physical factor of oceanic life is pressure water with increasing depth. At the surface of water the weight of the air is considered as one atmosphere (which is equivalent to pressure exerted by a 10 m high column of sea water).

Ecologically, the ocean offers a wide range of habitats with varied chemical, physical and biotic elements. Life zones exist in practically all parts of the sea, from deep bottoms to the surface. Most marine organism float or swim in the pelagic zone, where the greatest abundance of life form is found. In coastal oceans of the tropicals, environmental conditions for marine organisms are optimal and the diversity in species is greatest.

Most parts of the oceans are not so productive that they can be considered as immense food reserves of tomorrow for the increasing human population of the world. The main causes of disastrous effects on marine life zones are pollution, over-fishing and environmental changes resulting from human intervention.

SELF ASSESSMENT EXERCISE NO.1

Q. No.1	Fill in the blanks.
i.	Environmental flow of water or minerals in known as _____services.
ii.	Sources of energy are either _____ . or _____
iii.	Atmospheric water vapour occurs only _____ percent at any given time.
iv.	The _____ is the scientific study of the soil.
v.	The salinity of _____ is higher than temperature seas.
Q.2	Define the following terminologies:
i.	Ecosphere
ii)	Mesosphere
iii.	Transpiration

2. Ecosystem and Balance in Nature

A group of individual organisms (squirrels, oak trees) of the same kind (species) is called population. In nature we find several population of different organisms living in a particular area. The populations of plants and animals living and interacting in a given locality are called community.

Any natural or biological community also has an environment. A community of living things interacting with one another and with their physical environment (solar energy, air, water, soil, heat and various essential chemicals) is called an ecological system or ecosystem. An ecosystem can be a planet, a tropical rain forest, a pond, an ocean, a fallen log, or a puddle of water in a rock.

All of the various ecosystems on the planet, along with their interactions, make up the largest life unit, or planetary ecosystem, called the ecosphere or biosphere.

2.1 *The Origin of the Ecosystem:*

The global ecosystem in which we now live is the product of several billion years of evolutionary change in the composition of the planet's skin. Following a series of remarkable geochemical events, about two billion years ago there appeared a form of matter composed of elements common on the earth's surface, but organized in a manner which set it sharply apart from its antecedents life. Then the products of several billion years of slow geochemical process, the first living things, became powerful agents of geochemical change.

To begin with, they depleted the earth's previously accumulated stores of the organic products of geochemical evaluation, for this was their food. Governing much of this food into carbon dioxide, the earth's early life forms sufficiently increased the carbon dioxide content of the planet's atmosphere to raise the average temperature - through the "green house" effect to tropical levels. Later, there appeared the first photosynthetic organisms which reconverted carbon dioxide into the organic substance that are essential to all living metabolism. The rapid proliferation of green plants in the tropical temperature of the early earth soon reduced the carbon dioxide concentration of the atmosphere, thereby lowering the earth's temperature and depositing huge mass of organic carbon which became, in time, the store of fossil fuels. And with the photosynthetic cleavage of water, the earth for the first time acquired free oxygen in its atmosphere. By shielding the earth's surface from solar ultraviolet radiation (through the concurrent appearance of ozone), life to

emerged from the protection of an original underwater habitat. With free oxygen available, more efficient forms of living metabolism became possible and the great evolutionary outburst of proliferating species of plants and animals began to populate the planet.

Meanwhile terrestrial plants and micro-organisms converted the earth's early rocks into soil and developed within it a remarkably complex ecosystem, and a similar system developed in surface water.

2.2 The Components Or Element

The structure of the ecosystem always has two major parts or components i.e nonliving and living. The non-living, or abiotic, part includes an outside energy source (usually the sun) various other physical factors such as wind, heat, water, temperature, soil and all the chemical essential for life. The living, or biotic portion of an ecosystem can be divided into food producers (Plants) and food consumers. Consumers are usually further divided into macro-consumers (animals) and decomposers or micro consumers, (chiefly bacteria and fungi).

In any environment, living things are distinguished by their growth, reproduction and mobility apart from other characteristics. Every living species tends to multiply and spread to new and suitable surroundings, and repeats the process once established. Growth in population size continues usually until it is checked by some external factor. Such a factor, whatever its nature, is called limiting factor. According to Odum, any condition that approaches or exceeds the limits of tolerance of an organism said to be a limiting condition or a limiting factor. Limiting factors can be either physical (e.g. climate, presence or absence of water and nutrients, etc) or biological (e.g. competition, predation, parasitism and disease, etc.)

2.3 The Function of the Ecosystem.

The community can not live without the cycling of materials and the flow of every in the ecosystem. Thus in an ecosystem, energy flows and matter (chemicals) cycles. These two major ecosystem functions connect the various structured parts of an ecosystem so that life is maintained. This relationship between structure and function of an ecosystem is summarized in fig 5.2.

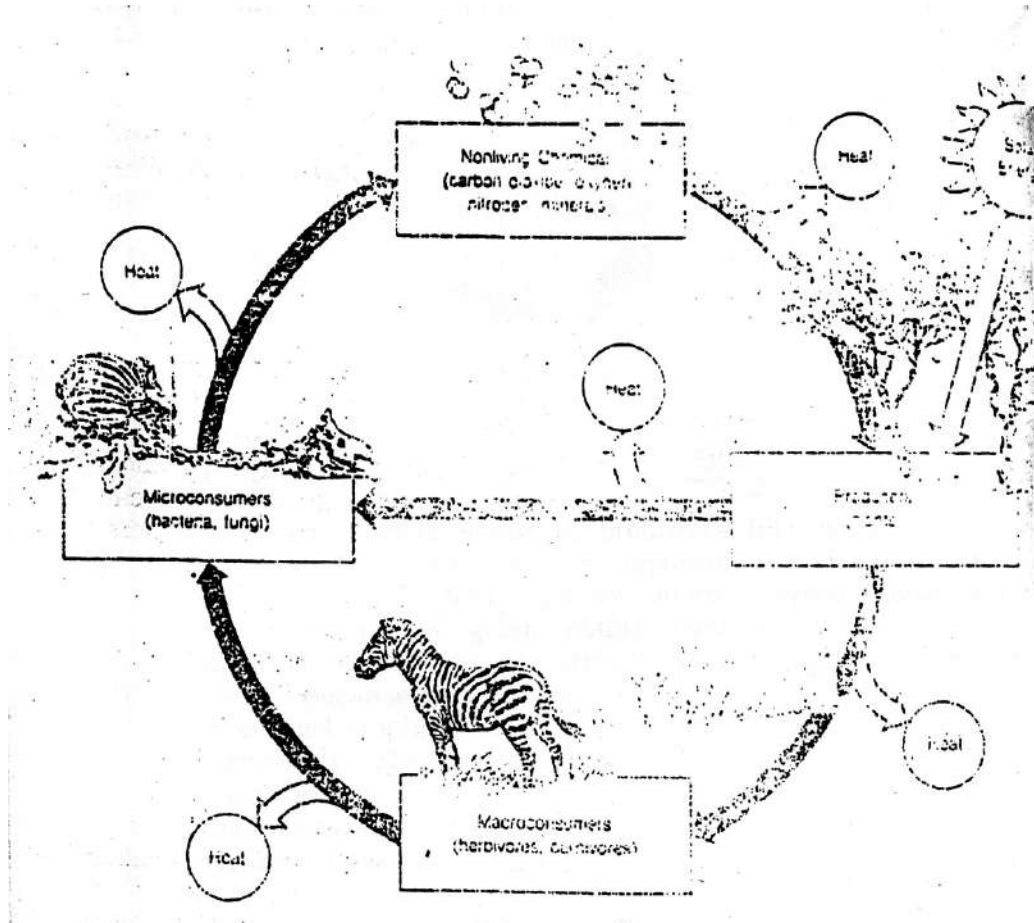


Fig. 5.2

2.3A Energy Flows in Ecosystem (Food Chain)

In the Figure the flow of energy through an ecosystem shows who eats or decomposes whom. The general sequence of who eats or decomposes whom is called a "food chain", or "energy chain". A food chain involves the transfer of food energy from one organism to another when one organism eats or decomposes other.

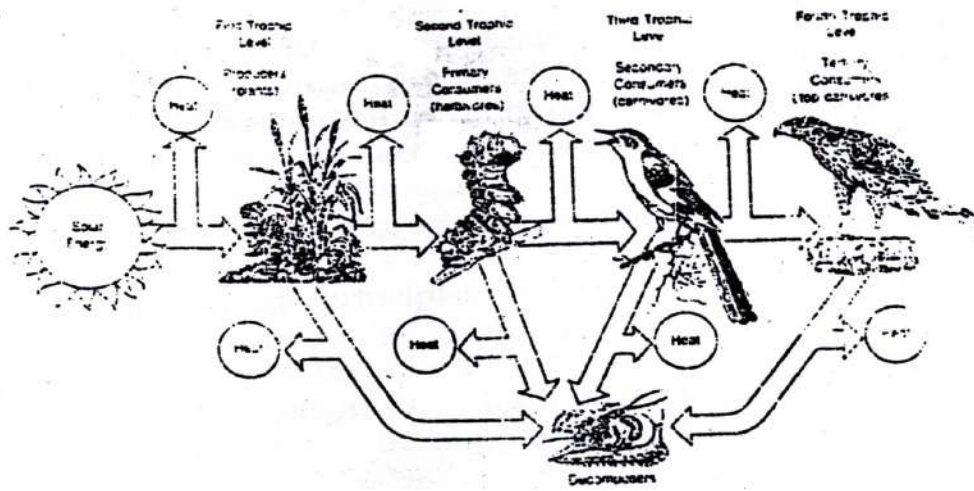


Fig. 5.3

The various levels of producers (plants) and consumers (herbivores, omnivores, carnivores and decomposers) in a food chain are called trophic levels. The first trophic level in an ecosystem always consists of producers, or green plants (and some photosynthesizing bacteria). Herbivores, or plant eaters, represent the second trophic level. Because they are sometimes called "primary consumers". The third trophic level is composed of carnivores, who feed on herbivores. They are often called secondary consumers. The top carnivores in a food chain are animals that feed on other carnivores. They represent the fourth and sometime even the fifth trophic levels and are often called tertiary & quaternary consumers, respectively. When plants and animals at all trophic levels die, their bodies are broken down by decomposers or microconsumers. The early stages of decomposition may be accomplished by millipedes, earthworms, woodlice and other invertebrates, but the final breakdown of organic compounds into inorganic compounds is accomplished by macro organisms and fungi, such as bacteria and yeast. Some organisms eat from more than one trophic level and are called "omnivores".

In an ecosystem two major types of food chain are (a) grazing food chain and (b) the decomposer or detritus food chain. In grazing food chain producers or green plants are eaten by herbivores which in turn may be eaten by carnivores. In the decomposer or detritus food chain, plant material (from producers) is converted to dead organic matter or detritus which is eaten by decomposers instead of herbivores. Eventually, of course, all organisms die and become part of the decomposer food chain.

In land or terrestrial ecosystems, such as a natural forests, some of the organic matter produced by trees and plants is eaten by herbivores. But as much as ninety percent of this matter falls to the forest floor as food for decomposers

and thus flows through the detritus food chain. In- aquatic or water ecosystems, however, much of the energy flows through the grazing food chain.

Two important principles emerge from the food chain concept. First, all life and all form of food begin with sunlight and green plants. Second, the shorter the food chain, the loss of useable energy. This means that a larger population of humans (or other organisms) can be supported by a shorter plant-based food chain.

As over populated country or world will be better off, at least in terms of total energy intake, by eating wheat or rice than by feeding such plants to herbivores (with ninety percent energy loss) and then eating the Herbivores (with another ninety percent energy loss). But a diet based on one or two plants like some of the proteins essential for good health.

2.3.B Chemical Cycling in Ecosystem

In chemical terms, life can be summed up in six elements; carbon, oxygen, hydrogen, phosphorus, sulfur and nitrogen. Although about forty of the ninety two, naturally occurring chemical elements are essential for life, these six elements make up over ninety five percent of the mass of all living organisms. These six plus a few others required in relatively large, quantities are called macronutrients. Iron, maganese, copper, iodine, and other elements needed in only minute quantities are called micronutrients..

Because we have a fixed supply of these six macronutrient elements, they must be continuously cycled from their reservoirs of air, water and soil through the food webs of the ecosphere and back again to their reservoirs. These cyclical movements of materials are called biogeochemical cycles. There are three types of these biogeochemical cycled gaseous, sedimentary and hydrological (water). The gaseous cycles, in which the atmosphere is the primary reservoir, include the carbon oxygen, and nitrogen cycles.

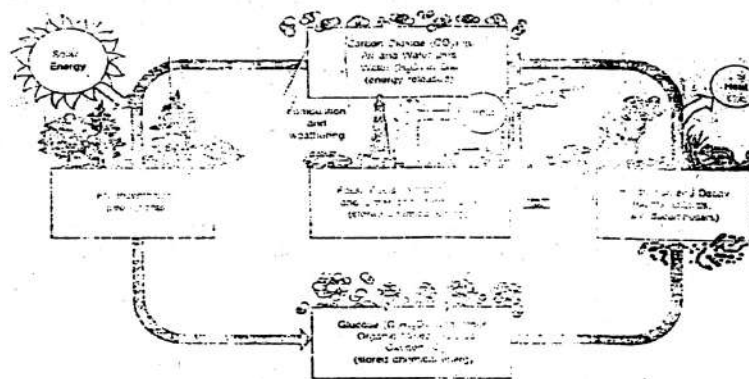


Fig. 5.4

The sedimentary cycles move materials from land to sea and back again. They include the phosphorus, sulfur, calcium, magnesium, and potassium cycles. In the hydrological cycle evaporation and transpiration occur from oceans, stream and ground water etc. and precipitation from atmospheric water vapor.

2.4 *Biomes: Major Land Ecosystems*

Biomes or land ecosystems show that similar conditions of climate and to some extent soil lead to similar groupings of organisms. The fact that similar biomes are found in widely separated areas shows that different living organisms can develop similar adaptation to similar environmental conditions.

2.4.A Arctic & Alpine Tundras:

The temperature on; these tundras is below-5C or 23 F and the summers last only a few weeks. The tundra landscape is covered with a mat of low growing lichens, masses, grasses, sedges and in alpine tundra some small shrubs and mountain wild-flowers cover the landscape. Most of the tundra's permanent animal residents are creatures that burrow under the snow, such as lemmings - it is small cunny herbivores whose population rises rapidly and crashes about every 4 years.

The limiting factors in this ecosystem are severe cold and a shortage of radiant energy (sunlight). These factors allow only a few producer species and primary consumers to survive and make the tundra an extremely valnerable ecosystem - it is easily disturbed and recovers very slowly.

2.4.B Taiga & Temperate Rain Forest:

When we move from the tundra towards the south, we encounter the taiga, or northern coniferous forest. It spreads on many millions of acres, stretches across North America & Eurasia (where it extends across Sweden, Finland, Russia & Siberia).

In this ecosystem the winters are long and extremely cold but the summers are warmer & slightly longer than in the tundra. Major predators in the taiga are the timber wolf, Canada lyrox & red fox. The timber wolf is killed by farmers on large scale but it plays an important ecological role by helping keep moose and deer populations from getting too large. When wolf populations are killed off or driven away, the increased populations of moose and other plant eaters can devastate taiga vegetation.

The taiga is threatened by heavy logging & fires caused by lighting and humans. And we must also resist pressures on us because of our growing need for

wood and the use of these areas for recreation, that these ecosystems are protected and used with great care.

2.4.C Tropical Rain Forest:

The most diverse of all terrestrial ecosystems is the tropical rain forests. These are found near the equator where there is plenty of moisture and heat. It has more different kinds of organisms than another ecosystem.

We know that most of the plant nutrients are into the trees and other forms of vegetation instead of in the soil. The nutrients are quickly washed away by the torrential rains. But, humans have steadily been clearing tropical rain forests to get Timber and to plant crops. It is the point to think over that once large area of the forest are cleared it is almost impossible for this diverse ecosystem to become re-established.

2.4.D Temperate Deciduous Forest:

If we have a somewhat cooler and drier climate, we encounter the "temperate deciduous forest" ecosystems. At one time much of the central Europe, eastern China and eastern North-America were covered by these magnificent forests. Today, much of these forests have been cleared to obtain Timber and to plant crops.

The climate of the deciduous forest is not as cold as that of the taiga and not as hot or wet as that of the tropical rain forest. Depending largely on local rainfall, different types of trees areas found in these forests. Animal life is also more varied than that occurring in tropical rain forest. There is also a variety of flowers, fruits, seeds and other food available for herbivores. These herbivores, inturn, supports a large number of various carnivores. But the reducing populations of predator birds (owls, hawks, eagles) can lead to the destruction of vegetation by mushrooming small rodent populations.

2.4.E Tropical & Temperate Grasslands:

The grassland ecosystem is found where rainfall is high enough to keep deserets from forming but low and erratic enough, so that cycles of drought prevent forests from growing. Here we find a carpet of high and low grasses, mixed in some areas with small bushes & shrubs and even a few widely dispersed trees.

Grasslands are found all over the world in both temperate and tropical climates. The tropical grassland ecosystems are found in southern Asia (especially India), Australia, Africa and South America. The temperate grasslands are the

great plains and prairies of Canada, the United States, South America, Africa, Russia and Central Asia. Human have had a tremendous impact on these ecosystems by way of fire, agriculture & hunting. As a result, the great herds of grazing animals and their predators are disappearing rapidly, except in protected areas.

2.4.F Tropical & Mediterranean Scrub and Woodland:

We find the thorn shrub thorn woodland ecosystems in arid tropical climates. Such areas are found in much of Mexico, Australia and Africa. These ecosystems contains respectively, small thorny plants and medium sized trees. Grass or dense shrub grow below the trees.

When a temperate area has a so-called Mediterranean climate - mil, damp winters, but hot dry summers - we encounter as ecosystem known as "chaparral", or "Mediterranean scrub and woodland". This ecosystem is found in Europe and in the parts of southern and central California.

2.4. G Desert:

The sequence forest, grassland and desert is of increasing environmental stress. Desert ecosystems are found in areas with climates too dry to support grasslands. Deserts generally have less than 25 centimeters of rain annually.

Deserts are found all over the world and make up more than one-third of the earths land surface. Two general types of deserts are cold deserts and warm deserts. Cold deserts are found in Oregon, Utah and Nevada. Warm deserts are found in Arizona, New Mexico, California, Texas, Africa (the Sahara) and Saudi Arabia. Most deserts consist of widely scattered thorny bushes, scrubs, a few succulents, such as cacti and after rains, some small flowers that carpet the desert floor. These desert plants use a number of strategies to get and conserve water.

Most desert animals are small and avoid the heat and come out only at night, especially near dusk and dawn. These animals include a number of rodents such as kangaroos rats, lizards, snakes and other reptiles, owls, eagles, vultures, some small birds, and numerous insects.

The desert ecosystem shows increasing signs of human intervention, climate is the major factor in forming deserts. But deforestation, overgrazing and lack of proper soil conservation practices in agricultural areas have led to the spread of deserts in many parts of the world.

2.4.H The Aquatic Ecosystem:

Many organic and inorganic materials are swept in to the rivers. Photosynthetic activity of alga and the other green plants takes place in the

rivers. Primary consumers feed on non-living organic material or on minute living organisms. Intermediate consumers, such as worms and insect larvae, feed on small organisms. Herbivores feed on green plants while scavengers eat bottom debris including dead organisms. Carnivores, generally fish, prey directly on the intermediate consumers. Inherent in the food cycle is the fact that rivers have the capacity for self-purification.

The clear river neither becomes choked with living organisms, nor devoid of them. We call this stability of aquatic ecosystems, the ecological equilibrium.

Although the river is able to cope with some of the inevitable changes that results from our use of water, but due to the increasing number of people in the world and their growing desires for more water, energy, goods, and services have meant that fresh surface water, in many cases, have been unable to clean by itself. In many cases, our streams, canals and lakes have become polluted.

2.4.1 The Marin Ecosystem: .

The ocean can be divided into several zones. The "neritic zone" includes where the sea and the land meet and extends out to the edge of the ocean's surface. This zone represents less than ten percent of the total oceans area and contains 90 percent of all sea life. While in the open sea because of few nutrients very little life is found. This 90 percent of the sea can be considered a biological desert.

Wastes dumped at sea can kill marine life, stimulate excessive algae growth, and deplete the water's dissolved oxygen. Some pesticides and metals can kill or damage marine life even when present in trace amounts. Toxic chemicals and those that can undergo biological magnification can also reduce the diversity of marine ecosystems.

2.5 *Balance in Ecosystem:*

Man's activities have often disrupted the natural balances which have been so finely and painstakingly turned by the natural responses of animals and plants. A natural ecosystem, such as a forest, uses energy and recycles its chemicals very efficiently and is, thus, able to support many different plants and animals with no help from us. But in such ecosystem, process of growing trees and large plants is very low. These provides us with a renewable source of wood. But such systems can not produce harvestable good rapidly enough to support a large human population.

As the human population grows, there is the danger that we will convert too many of the world's nature ecosystems, to young productive but highly

vulnerable ecosystems. These immature systems depend on the existence of nearby natural ecosystems. For example, simple farmlands on the plains must be balanced by diverse forests on nearby hills and mountains. These forests hold water and minerals and release them slowly to the plains below. If the forests are cut for short-term economic gain, the water and soil will wash down the slopes in a destructive rush instead of a nourishing trickle.

Thus forests must not be valued only for their short-term production of timber but also for their vital long-term role in maintaining the young productive ecosystems that supply out food. What we must do then is to preserve a balance between young and mature ecosystems.

Activity No. 2

Collect samples of pond, lake and river water from different levels and examine:

- i. number and types of species
- ii. amount of nutrients/salinity
- iii. amount of oxygen/air

SELF ASSESSMENT EXERCISE NO. 2

Q. No. 1 Find out True/False statements:

- i. Dead animals & plants are decomposed by microconsumers. T
- ii. If the food chain is longer, then there is less loss of useable energy. T F
- iii. Elements needed by living organisms in minute quantities are known as micronutrients. T F
- iv. In the hydrological cycle precipitation occurs from atmospheric water T F
- v. At sea excessive algae growth increases the water's dissolved T F

Q.No.2	Answer the following questions:
i.	How did the earth, for the first time, acquire free oxygen in its atmosphere?
ii.	What is the difference between ecosystem & ecosphere?
iii.	What do you understand by abiotic and ecosystem? biotic
iv.	How the limiting factor is defined by Odum?
v.	Describe various tropic levels in an ecosystem.

3 ENVIRONMENTAL POLLUTION

The ecosphere functions in a cyclical process. This is known as the ecological cycle in which each individual element influences the action of the rest of the cycle, and in turn, is influenced by it. For example, the cattle excrete organic waste which the bacteria converts in inorganic products, which are nutrients for the growth of the grass. The grass is eaten by the cattle and the cycle is complete. This process causes self-purification of the environment where waste produced at one stage in the cycle turns into the raw-material input for the next. Such possibilities in the human economic system are rather limited, the waste produced is mostly discarded, and must become a load on the environment. If the land surface is overloaded with foreign matter (pollution), it would destroy its productive capacity and turn it into barren land and eventually desert. Thus "pollution refers to release of large amounts of foreign matter or energy not found in the environment, into air, water and on the land."

Environmental pollution is natural when caused by volcanoes, earth quakes, floods, etc. And there is also pollution which is caused by man, directly or indirectly. Factory smoke stacks and municipal sewage out-falls come readily to mind when one thinks of direct pollution. Besides, it is important to be aware of the existence of many other less obvious and less easily detectable mechanisms, such as the evaporation of spilled mercury from the floors of dental offices, the leaching of plasticizers in to blood stored in plastic bags and the release of toxic substances into food by contaminating bacteria and molds in the ordinary process of food spoilage.

Even more difficult to detect, in general, are indirect forms of pollution, where potentially harmful substances may be chemically transformed

concentrated at locations distant from source of original environmental release. For example, DDT, polychlorinated biphenyls, heavy metals, other chemical that are poorly metabolized and excreted by animals tend to be concentrated in biological food chains. Thus, the pollutants are chemical or physical agents capable of adversely affecting man or other living organisms.

3.1 Properties of Pollutants

A pollutant may be described as "a substance present at the wrong concentration". For example oil is a natural product and the yearly hydrocarbon input by organisms to the environment vastly exceeds the petroleum spillage resulting from man's activities. Yet the latter is rightly regarded as pollution because it causes local hydrocarbon concentrations far in excess of the natural levels which organisms are adapted to.

Similar comments apply to pollution by heavy metals, sewage and radioisotopes, all of which are part of the normal environment and cause problems only when present in excess.

3.1.A Toxicity: Toxicity is a measure of the potential damage to life posed by a substance. The more toxic a substance is the more it must be diluted or rendered innocuous before it may be discharged to the environment.

3.1.B Persistence: The persistence of a substance affects, the rate at which it can be injected in to the environment. Organochlorine such as DDT is extremely stable, in contrast to the organophosphates, which can often replace organochlorine insecticides and which break down much more quickly. Thus a highly toxic material that breaks down in years or decades, is less harmful to the environment.

3.1.C Mobility: The solubility of a pollutant in water or its diffusivity in air and water affects its local concentration, the ability of sulphur dioxide to disperse in the atmosphere is very useful to those who burn fuels with a sulphur content. On the other hand, oil and water are immiscible and a layer of oil on water only one or two molecules thick can affect the rate at which water takes up oxygen by as much as 50 percent.

3.1.D Concentration: The ability of DDT and heavy metals is accumulated within living tissues. Organochlorines, (e.g. DDT) are present in the sea at very low concentrations, as low as 1 part in 10^6 or greater. Fish or sea birds may then ingest them as food and over many meals acquire a body burden of organochlorines that may prove fatal.

3.1.E Controllability: The ease of removal of a pollutant from an emission

to air or water, or discharge upon land, is a very important property. For example; most grit can be readily removed from the flue gases, but sulphur dioxide can not be removed without a great deal of expense. Thus, if a pollutant can not be removed readily, special means must be adopted for its disposal to ensure its dilution to safe levels.

3.2 Types and the Factors of Pollution:

It is characteristics of all life that it takes in suitable materials, e.g. food and air and converts them into products of value to itself or its species, e.g. heat, energy, body material, progeny. In doing so it inevitably produces waste material, e.g. carbon dioxide, a fatal matter, which it must get rid of.

3.2.A Air Pollution: The composition of atmosphere is not fixed. Billions of years ago it consisted mostly of gaseous hydrogen, methane, and ammonia. Gradually photosynthesis and aerobic respiration by living organisms changed the composition. Today the atmosphere is about 78 percent nitrogen, 21 percent oxygen by volume, with small amounts of argon, carbon dioxide, water vapour and other gases. The percentages of carbon dioxide and water in the atmosphere vary, but the other percentages remain relatively constant. Changes in the composition of atmosphere are normal, so far. But chemicals added to the atmosphere as a result of human activities could increase to such a degree that changes in atmospheric composition could alter world climate and threaten all forms of life.

Normally, "air pollution" is defined as air that contains one or more chemical in high enough concentrations to harm humans, other animals, vegetation, or materials. There are two main categories of air pollutants.

- i) A primary air pollutant, is a chemical added directly to the air that accrues in a harmful concentration. It can be a natural air component, such as carbon dioxide or something not usually found in the air, such as a lead compound.
- ii) A secondary air pollutant, is a harmful chemical formed in the atmosphere through a chemical reaction among air components.

Types of air pollutants: The eleven major types of air pollutants are as follows:-

- i. Carbon oxides: Source or factors of carbon monoxide are forest fires and decaying organic matter, incomplete combustion of fossil fuels and other organic matter in cars and furnaces and cigarette smoke. Its effects to reduce oxygen carrying capacity of blood, impairs judgement and aggravates heart and respiratory diseases etc. Its effects can be controlled by using modified furnaces and automobile engines, removal from

automobile, home and factory gases and by preventing smoking.

The sources of carbon dioxide are natural aerobic respiration of living organisms and burning of fossil fuels. It could effect world climate through the "green house effect" at excessive concentrations. Control methods are: to switch away from use of fossil fuels, removal from automobile home and factory exhaust gases.

- ii. Sulfur Oxides: Sources of sulfur oxides are combustion of sulfur containing coal and oil in homes, industries, and power plants, it aggravates respiratory diseases, irritates eyes and respiratory tract, increases mortality, damages plants and reduces growth and causes acid rain. It can be controlled by using low-sulfur fossil fuels, coal gasification and shift to non-fossil fuel energy sources.
- iii. Nitrogen Oxides: Their sources are high - temperature fuel combustion in motor vehicles and industrial and fossil fuel power plants and lighting, they aggravates respiratory and heart diseases, irritates lungs, causes acid rain decreases atmospheric visibility. It can be controlled by discouraging automobile use.
- iv; Hydrocarbons: Sources of Hydrocarbons are incomplete combustion of fossil fuels, evaporation of industrial solvents and oil spills, forest fires and plant decay. They can injure, respiratory system and some can cause cancer. They can be controlled by removing from automobile exhaust and by improving the handling of solvents and petroleum to reduce spills and loss by evaporation.
- v. Photochemical Oxidants: The sources are sunlight acting on hydrocarbons and nitrogenoxides they aggravate respiratory and heart diseases, irritates eyes, throat and respiratory tract, and decreases atmospheric visibility. They can be controlled by reduced emissions of nitrogen oxides and hydrocarbons.
- vi. Particulates (Dust, Soot and Oil): Their sources are forest fires, wind erosion, farming, mining, construction and coal burning. They can cause cancer, aggravates respiratory and heart diseases, harms animals, reduce atmospheric visibility and may affect weather and climates. They can be controlled by decreased use of coal, improved land use and by soil erosion control.
- vii. a. Asbestos: The sources of absetos are asbestos mining and spraying of fireproofing insulation in buildings, they can cause cancer, hinders breathing and aggravates respiratory and heart diseases. They can be controlled by reducing use of asbestos, preventing their escape into the

atmosphere and by protecting construction workers and miners from inhaling dust.

- b. Metals and Metals Compound: Its sources are mining and industrial processes. They can cause respiratory diseases, cancer, nervous disorders and damages plants. They can be removed from exhaust gases and by putting ban on highly toxic chemicals.
 - c. Hydrogen Fluoride: Its sources are petroleum refining, glass etching, aluminum and fertilizer production. They can burns skin and eyes, damages plants and animals. Their effect can be decreased by the control of industrial processes more carefully.
 - d. Hydrogen Sulfide: Chemical industry and petroleum refining are the main sources of hydrogen sulfides. They have unpleasant order, cause nausea and are toxic at high levels. Their effects can be controlled by using industrial processes more carefully.
- vii. Ammonia: Source of ammonia are chemical industry and fertilizers. They irritate upper respiratory passages & form particulates in atmosphere. Control methods are same as for hydrogen sulfides.
- viii. a. Sulfuric Acid: Reaction of sulfur trioxide and water vapour in atmosphere and chemical industry are the amine sources of sulfuric acid. Their effects and control methods are same as for sulfur oxides.
- b. Nitric Acid: Reaction of nitrogen dioxide and water vapour in atmosphere are the sources of nitric acid. Their effects and control methods are same as for nitrogen oxide.
- c. Pesticides and Herbicides: Agriculture, forestry and mosquito control are the sources of pesticides and herbicides. They are toxic to some fish, predatory birds and animals, concentrate in human fat and may cause birth and genetic defects and cancer. They can be controlled by the reduced use and by biological and ecological control of insects.
- ix. Radioactive substances: They come from rocks, soils, cosmic rays, uranium mining, nuclear processing, power generation, nuclear weapons testing and coal burning. They cause cancer and genetic defects and reduce plant growth. Their effects can be reduced by putting ban or reduced use of nuclear power plants and weapons testing, reduced burning of coal and coal gasification.
- x. Heat: Its sources are nuclear fuels and use of fossil. It may effect world

climate. It can be controlled by reducing population and by reduced use of energy.

- xi. Noise: Its sources are, automobiles, air planes and trains industry and construction, it can cause annoyance, disrupts activities, causes nervous disorders and impairs hearing. It can be controlled by reducing noise levels of automobiles, etc.

Effects of Air Pollution: We can classify the effects of air pollution into following six major classes:-

- Class-1 (Nuisance & aesthetic insult) odor, low atmospheric visibility, discoloration of buildings & monuments.
- Class-2 (Property damage) corrosion of metals, accelerated weathering (dissolution) of buildings & monuments, sailing of clothes, building & monuments.
- Class-3 (Damage to plant & animal life) leaf spotting and decay, decreased food crop yields, decreased rate of photo-synthesis, harmful effects on the respiratory and central nervous system of animals.
- Class-4 (Damage to human health) oxygen deficiency in the blood, eye irritation, respiratory system irritation and damage and cancer.
- Class-5 (Human genetic & reproductive damage) largely unknown at present, but possible.
- Class-6 (Ecosystem disruption) alteration of local and regional climate and perhaps global climate.

3.2.B Water Pollution: Water pollution occurs when some substance or condition (such as heat) degrades a body of water to such a degree that the water does not meet specified standards or cannot be used for a specific purpose. Thus water pollution depends not only on the nature of the pollutants but also on the intended uses of the water.

Water that is too polluted to drink may be satisfactory for industrial use. Water too polluted for swimming may not be too suitable for sailing or for generating electric power. In deciding what constitutes water pollution, we encounter the controversial problems of human value judgements.

Major Water Pollutants: There are eight major water pollutants. Their sources, effects and control methods are as follows:-

- i. Oxygen Demanding Wastes: Domestic sewage animal manure and some industrial wastes are oxygen demanding wastes. Due to their effects fish killed or migrate away, plant life destroyed, foul odors and lives-stock

- poisoned. By treating waste water and minimizing agricultural runoff they can be controlled.
- ii. Disease Causing Agents: These are bacteria and viruses. Their sources are domestic sewage and animal wastes. They infect livestock and cause diseases, such as typhoid, cholera and dysentery etc. Control methods are same as for oxygen demanding wastes.
 - iii. Inorganic Chemical & Minerals:
 - a. Acids: Mining, especially coal and industrial wastes are the main sources of acids, they can kill some organisms and increase solubility of some harmful minerals. Control methods are same as for disease causing agents.
 - b. Salts: Irrigation, mining, natural runoff from land, industrial wastes, oilfields and urban storm runoff are the sources of salts. They cause salinity buildup in soil, kill fresh water organisms, makes water unfit for domestic and many industrial uses. Their effects can be controlled by the use of drip irrigation and by putting ban on brine effluents from oil fields.
 - c. Lead: Its main sources are leaded gasoline and pesticides. It is toxic to plants and humans. Its effects can be controlled by putting ban on leaded gasoline and pesticides.
 - d. Mercury: Its sources are industrial wastes fungicides, natural evaporation and dissolving. It is highly toxic to humans. It can be controlled by putting ban on its unessential uses.
 - iv. Organic Chemicals:
 - a. Oil: Its sources are, machine and automobile wastes, pipeline breaks, offshore oil well blowouts and natural ocean seepages. It can cause disruption of ecosystems, aesthetic damage to coasts, taste and odor problems. Its effects can be controlled by strictly regulated oil drilling, transportation and storage.
 - b. Pesticides and Herbicides: Their main sources are agriculture and forestry. They are toxic to some fish, predatory birds and mammals. Their effects are controlled by putting ban on harmful chemicals and by their reduced use.
 - c. Plastics: Sources of plastics are homes and industrials. Their effects are mostly unknown but they can kill fish. They can be controlled by encouraging recycling of plastics and by the reduced use in packaging.

- d. Detergents (Phosphates): Sources of detergents are homes and industries. They cause foul odors, kill fish and encourages growth of algae and aquatic weeds. Their effects can be controlled by putting ban on the use of phosphates detergents except in crucial areas.
- e. Chlorine Compound: Paper and other industries (bleaching) are the main sources of chlorine compounds. They are fatal to plankton and fish. Its effects can be controlled by using other substitute disinfectant for chlorine.
- v. Plant Nutrients (Nitrates & Phosphates): Sources of plant nutrients are, agricultural and natural runoff from land, mining, industrial and domestic wastes. Over pollution of plant nutrients results in, excessive growth of aquatic plant life leading to secondary oxygen demanding pollution, offensive odours kill fish and upsets aquatic ecosystems. Their effects can be controlled by using advanced treatment of industrial, domestic and food processing wastes, and recycling sewage and animal wastes.
- vi. Sediments (Soils, silt and other solids from land erosion): Major sources of the sediments are poor soil conservation, run off from agricultural, mining and forestry natural erosion and construction activities. They fill in waterways, harbors and reservoirs and reduces fish population. These effects can be controlled by using more extensive soil conservation practices.
- vii. Radioactive Substances: Sources of radioactive substances are rocks and soils, uranium mining and processing, nuclear power generation nuclear weapons testing, they cause cancer and genetic defects. Their effects can be controlled by putting ban or reduced use of nuclear power plants and weapons testing.
- viii Heat: Its sources are the cooling of water for industrial and electric power plants. It decreases solubility of oxygen in water, can kill some fish, and changes composition of aquatic ecosystem. Its effects are controlled by decreased use of energy and waste, by decreased return of heated water to ponds or canals and transfer of wasted heat to the air.

Effects of water Pollution: In order of increasing danger to humans, we can classify the effects of water pollution in the following six classes:-

- Class- 1 Nuisance aesthetic insult: For example, color (Sediments, mine drainage), odor (Phenols, eutrophication), taste [organic chemicals, sediments).

- Class-2 Property damage; Its examples are dissolved salts (corrosion), muddy water (sedimentation), loss of real estate and recreation values (Odor, eutrophication).
- Class-3 Damage to plant and animal life: For example, nutrients nitrogen and phosphorus (excessive plant growth), some pesticides and other chemicals (fish kills).
- Class-4 Damage to human health: For example bacteria, viruses, Nitrates, some industrial chemicals, some pesticides (in food chain) and metals (mercury, lead-cadmium).
- Class-5 Human genetic and reproductive damage: For example pesticides some industrial chemicals and radioactivity.
- Class-6 Major ecosystem disruption: For example, oil (especially refined), some organic chemicals, some pesticides, erosion, nutrients - nitrogen and phosphorus and heat.

3.2.C Noise Pollution:

Ever since the industrial revolution gave us a new influence on the environment, the number of sources of sound has steadily increased in the modern man made world.

It is getting increasingly difficult to find places which are free from the sound sources associated with human activity. "When a sound becomes a source of irritation, then it is noise".

The description "noise" is used for any unwanted signal. In a T.V. programmes, associated with electricity and magnetism, you may have met other kinds of noise: noise associated with electronic signal detection system and noise associated with visual perception. Basically, the definition of noise remains the same. In a system where unwanted signals are present, it can be said that the system is corrupted by noise.

The effects of noise: We can all tell our own stories of the effects of noise. However, it is worth while to list a few. Noise can interfere with speech (telephone conversations, radio, television) and sleep. Near air ports, motorways or busy urban road, noise can reduce the value of housing.

Noise can disrupt education and industrial efficiency. Many, people living in noisy environments may develop habits of shouting, some children may tend to shut themselves off many feel stressed and are irritated. There is some evidence to show that noise can often be the "last straw" before onset of psychiatric disorder.

Extremely loud and sudden noises cause pain, with temporary deafness or permanent damage to the ear. Prolonged exposure to noises which are loud (but not extremely loud) can also affect hearing.

So, physiological changes caused by noise are most prevalent in industrial environments. Although general urban noise and startling sounds are a serious problem, the noise levels people endure every day at their work are even more serious.

Noise Control: Noise is probably the easiest type of pollution to control. It can be accomplished in three major ways:

- i. reducing noise at its sources
- ii. substitution of less noisy machines and operations and
- iii. reducing the amount of noise entering the listener's ear.

Many countries have noise control specifications for homes and other buildings. Noise control for an apartment house adds only about five percent to its cost. Noise control provisions could easily be standardized and written in building codes. Like-wise noise control standards for cars, motorcycles, trucks, airplanes, home devices and factories could be set and achieved with existing technology with minor extra cost.

Activity No. 3

List man's polluting activities that could generations considerable discomfort.

SELF ASSESSMENT EXERCISE NO. 3

1. Identify the appropriate item to complete the sense of the sentence.
 - i. Natural environmental pollution is due to _____.
 - a. Floods
 - b. Factory smoke
 - c. DDT
 - ii. The measure of the potential damage to life posed by a substances is called _____.
 - a. Persisting
 - b. Toxicity
 - c. Mobility
 - iii. In air, hydrocarbons are responsible to cause _____.
 - a. Influenza
 - b. Jaundice
 - c. Cancer
 - iv. One of the inorganic water pollutant is _____.
 - a. Oil
 - b. Lead
 - c. Cholrine

- v. The sound is a noise when it becomes a source of _____
a. Intimidation b. Animation c. Irritation
2. Define the following terms very briefly:-
- i. Ecological Cycle
ii. Pollution
iii. Secondary Air Pollution
iv. Water Pollution
v. Noise Pollution

4. ENVIRONMENT AND POPULATION EDUCATION

This unit "Population and Environment" deals with the inter relationship between man and his environment. On one hand, it regards growth of population (development of man himself) and growth of the economy (development of material production for sustaining and improving man's quality of life) as stimuli to the environment. And on the other hand, it regards the change of environmental resources (such as land resources, mineral resources, fresh water, clean air scenery, or pollution - sustaining capability) as response of the environment.

Man's effort (environmental protection, conservation, preservation or management) is how to manage the growth of population and economy under the constraints of environmental resources, so that the development and the environment will be kept in harmonic balance. The growth of population and economy should in no way over-shoot the increase in environmental productivity. The environment should be preserved and enhanced not just for the welfare of the present generation but for the good of all future generations.

Most of the environmental problems and issues now arising are the result of environmental illiteracy. There exists an urgent need to disseminate concepts of environment to all, from policy makers (including specialists as well) to the general public and the school kids.

4.1 Characteristics of Environment and Population Education

In the last decade, the realization of environmental problems has promoted the intensification of population education into various aspects of the environment at international and national levels. In simple terms, environment and population education can be regarded as the process of learning through which human population acquire sufficient knowledge to contribute towards solving

environmental problems.

In formal education, pupils and teachers concentrate on knowledge which is built up into disciplines. But when we look at the environment, we have to look at a body of knowledge normally taken up by separate disciplines in a curriculum which should now be integrated into a whole. Environmental knowledge exists in an unsystematized manner and it is not static but changes with time and place.

Understanding and appreciating environmental issues is a life long process. Hence, teaching and learning should be restricted to those who go to regular schools but it should continue for the other members of the community (life-long education).

4.2 Teacher's Training

Environment and population education is a constructive and rewarding link in the understanding of human beings and their society. The fundamental question is not the validity of environmental education training for teachers with a background in the humanities, but it is the method that can most effectively convey environmental concepts to people here, the first major step is to realize that the training of teachers in environment and population education is something different and special. Teachers with a background in the humanities need to learn particular skills and be trained in certain basic requirements that will fulfill two specific purposes:-

- i. the ability to single out the possible environmental indicators relating to the subject
- ii. to integrate those indicators with scientific data.

In order to achieve these objectives, they need professional training in skills that will equip them to integrate knowledge in a way that will also stimulate their students to show greater awareness of the environment and population around them. Also to enable them to understand the fundamental problems of the environment in relation to development and society.

Topics for Teachers' Training: For teachers' training in environment and population education following lectures and discussion topics are to be considered:-

- i. The organism and its environment - understanding basic ecological principles.
- ii. Development and the environment - understanding relationships between all aspects of development and its impact on the environment.
- iii. Identification of environment problems and themes suitable for use in

schools.

- iv. Identification of topic in the various school subjects appropriate for the integration of environment and population growth concepts.
- v. The integration technique - approaches to the incorporation of environment and population growth concepts into existing topics.
- vi. Methodology and approaches to the teaching of environment and population education.
- vii. Resources for the teaching of environment and population education.
- viii. Laboratory and outdoor activities for environment and population education.

4.3 *Students Activities*

In the past, the primary school curriculum was designed around subject areas such as national language, mathematics, natural sciences, and social studies but there is a great need that the new educational curriculum take the learner as its focus and equip him in the following for areas:

- | | |
|--------|--|
| Area-1 | Basic Skills: This area represent the key subjects which enable the learners to gain more knowledge e.g. national language and mathematics. |
| Area-2 | Life Experience: This emphasizes the process of solving social problems. The selected content concern problems and issues such as health, population politics, government, society, religion, culture, economics, technology, natural environment and communication. |
| Area-3 | Character Education: This deals with experiences necessary for the development of good character. It includes moral education, art, music and physical education. |
| Area-4 | Work Education: This emphasizes basic practical work experiences. It covers household work, handicrafts, wood working, agriculture etc. |

The environment has been singled out in the description of area 2 (life experience), this is because the environment is considered to be closely associated with the life of every child, as the environmental problems exist as every stage and level of community life. Thus, it is appropriate that concern for the environment should appear as an objective of the educational curriculum. Environment and population growth problems are among the major concerns of

every nation, so educational activities have become part of the joint efforts to promote environmental quality.

Thus, it is suggested that in the education curriculum, the content of area two organized into may be the following chapters.

Living organisms, family life, the environment around us, transport and communication, population education etc.

Although the same title can be used for chapters in all grade, the content varies in both detail and scope. In grade I and II the topics will generally be concerned with the pupils immediate surroundings. Such as the school environment, the quality of life in school and the reasons for maintaining cleanliness. It should also deal with beauty and the balance of nature in the environment of the community and give brief consideration to the nature of the earth's crust.

In grades III and IV the concern is still with community life but in more detail than in grades I and II. The topics should also include water and air in terms of their importance, pollution problems and conservation.

Grades V and VI should cover environmental activities which may not be so local to the school, such as deforestation and forest conservation and water conservation, degradation of the biosphere and its protection.

SELF-ASSESSMENT NO. 4

- | |
|---|
| <ol style="list-style-type: none">1. How can you manage the growth of population and economy under the constraints of environmental resources?2. What is the purpose of training of teachers' in environment and population education?3. What topics of the environment and population education be introduced in the curriculum and why? |
|---|

5. SUMMARY

The environmental pollution problems is a consequence of population growth. The old people used to say that. "Flowing water purifies itself every ten miles". Fifty years before this statements could have been true for there were not too many people on this earth.

Obviously, man has acted dangerously in assuming that echo capacity of the atmosphere, soil and waterways to absorb pollution is unlimited. But it is not; because, the size of population has reached the level where starvation and other unfortunate events start.

Further the alterations produced by man can no longer be regarded as local. Because, direct heat input by a city changes the microclimate of that city. The combined effect of many cities can change the climate of a region and all these changes can influence the global climate.

As the environment embraces society, culture and the entire physical world (land, air, water, minerals, soils, fauna, floral energy, and human beings), the cost of cleaning up the mass and maintaining the environment fairly healthy or less polluted, is enormous. Thus, environmental concept are to be integrated, into the formal and non-formal curriculum at all levels.

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**POPULATION POLICES AND MODES OF
CO-OPERATION IN SOUTH ASIA COUNTRIES**

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CONTENTS

	Page
Introduction	424
Objectives	426
1. Population Policy-Meaning and Scope	427
2. A World Population Policy	427
3. Population Policies of South Asian Countries	431
4. Population Education as an Integral part of Population Policy in South Asia.	435
5. Modes of Cooperation	437
5.1 Conferences and Seminars	437
5.2 Workshops	438
5.3 Coordination/Cooperation Cells	438
5.4 Exchange of Experts and Literature	439
5.5 Displays	439
6. Self Assessment Questions	441
7. Key to the Self Assessment	444
8. References	445
9. Bibliography	446

INTRODUCTION

More than half the population of the world, and about three fourths of the population of Asia, are suffering from poverty, malnutrition and undernutrition. It has already become a question of survival for a significant proportion of the population in increasing population. All efforts to improve the standard of living of the people and alleviate human misery are nullified by the increase in population. There are some projections which indicate that at the present rate of population increase vital resources will be exhausted by the end of this century. How far technological innovations will help solve the problems of food, energy and other resources without deteriorating the environment and effecting animal and plant life is very uncertain.

Governments concern over matters of population is not a new phenomenon. State intervention, in the form of laws or decrees encouraging marriage, taxing the unmarried, subsidizing families with children, regulating immigration and emigration, fixing a legal minimum age for marriage and the like, have existed since ancient times. In general, these measures represented a populationist philosophy that equated power and prosperity with large numbers.

During the same period, policies with a somewhat similar content but a different rationale were taking shape in other countries where very low rates of growth were evoking fears of an impending decline in numbers. Fertility rates were below replacement levels in many of these countries, and although only France and Austria actually recorded an excess of deaths over births, it was considered but a matter of time until most of Western Europe would be experiencing a natural decrease of population. At the same time, sustained economic depression was precipitating a new concept of social justice and governments were taking steps to protect workers against the risks of unemployment and to guarantee a minimum family wage that would take account of the number of dependents supported by each worker.

Although it was not clear to what extent the low birth rates than current were a continuation of the secular trend and to what extent they were a temporary phenomenon. It was thought that low marriage rates and low fertility within marriage had an essentially economic explanation. Consequently, the attempt to sustain or increase the birth rate became linked to the development of social security programmes, particularly those aspects of social security that contribute to the economic security of the family. In so far as these programmes have a demographic intent, they are distinguishable from the populationist policies described above, in that they are not expansionist in the imperialist sense but, rather, are animated by a desire to avoid population decline or, at most, to achieve a gently increasing population.

Similar programmes have developed in the former Soviet Union and Eastern Europe, as an integral part of the plan to build the socialist state. The populationist overtones of these programmes stem in part from the old controversy between Malthus and Marx, in which Marx took the position that “overpopulation” was a misnomer for imperfect former organization, and in part from a felt need, in the Soviet Union at least, for a larger population. But in these countries, as else where, the nature of population policy and even the question of whether a policy exists is to some extent a matter of the interpretation a government chooses to make of its actions and programmes. Thus, a nation’s stated policy is not necessarily an exact statement of its purposes of the moment. Indeed, the prevailing pattern of social and political organization is such that much of national policy in any area takes form through a series of compromises between contending pressures and hence has elements of ambiguity, not to say of ambivalence.

After World War II, with the emergence of new nations and a growing awareness of the economic problems of underdeveloped countries, population policies that represented a different point of view began to develop. In many of the underdeveloped countries mortality was falling remained high and rates of increases as great as 2.5 to 3.0 percent per annum. ⁽¹⁾ Such rates implied a possible doubling of population within a generation and aroused fears that the effort to raise levels of living would be impeded by the necessity to provide substance for the increasing numbers. Policies that favour reducing or stabilizing the rate of population growth have, therefore, begun to evolve in some of the densely populated developing countries of South Asia. The purpose of this unit is to throw light on these population policies and experiences of various countries with specific reference to South Asia Countries.

OBJECTIVES

The main objectives of this unit are to help the students:

1. Realize the need and importance of population policy.
2. Understand the meaning scope and elements of a population policy.
3. Discuss and analyse the population policy in global perspective specifically from health point of view.
4. Discuss and analyse the population policies of South Asian Countries.
5. Identify the place of population education as a vital part of population policies of South Asian Countries.
6. Identify the means and methods of inter country and inter- institutional cooperation in South Asian Countries with respect to welfare and control of their population.
7. Put forward the suggestion for formulation of sound and effective population policies in South Asian Countries.

1. POPULATION POLICY - MEANING AND SCOPE

Population policy may be defined as legislative measures, administrative programmes, and other governmental action intended to alter or modify existing population trends in the interest of national survival and welfare. Many aspects of public policy and of social change in general have an impact upon demographic trends. Population policy embraces those aspects of public policy that are designed to counteract the unwanted demographic effects of over-all policy and of other social forces. Most frequently, attention is focused upon efforts to maintain, increase, or restrain the rate of growth of a population. Thus, the major purpose is to control population size, but consideration may also be given to influencing its composition and its geographic distribution.

The quantitative aim of population policy is emphasized here, partly because policies now in force are concerned primarily with affecting size and rate of change and partly because the inclusion of nonquantitative, or qualitative aims would make population policy virtually synonymous with public policy in general. Biological quality, which is the object of measures designed to control the genetic structure of a population, is sometimes regarded as properly the concern of population policy.

Ideally, population policy involves the examination of past and current demographic trends and their causes, an appraisal of the future demographic changes implied by these trends; an evaluation of the social and economic consequences of expected patterns of change in the perspective of what is regarded as the national interest; and finally, the adoption of measures designed to bring about desired changes or prevent undesired ones. Demographic trends are a function of changing relations between the forces of fertility, mortality, and migration, whether in the population as a whole or differentially in its various segments. Policy makers are, therefore, logically concerned with understanding the factors of change in these three processes and with ways and means of influencing the direction and amount of change in each of them. However, practical considerations are such that most of population policies, as these exist today, are directed at influencing fertility, although the trends and effects of migration and mortality may also be carefully studied, for changes in them can be the precipitating factors that render population a "problem".

2. WORLD POPULATION POLICY

In view of the almost universal desire among the people in all countries to improve their health services and thus reduce their death rates as fast as possible, it will be in order to note briefly the more important implications involved in the establishment of health services aimed at reducing these rates to new and still lower levels in the underdeveloped countries which now contain about two-thirds

of the world's population. The first fruits of even modest health services are already clearly evident. Health programmes meet with comparatively little resistance from even the most tradition minded peoples even the ones, who generally oppose all change. Scotching an epidemic of smallpox by vaccination, saving a pneumonia victim or a victim of a dozen other diseases from death by the use of penicillin, teaching mother how to protect her baby from diarrhea and enteritis are such obvious benefits that almost all people are glad to avail themselves of these services almost as soon as they know about them. The immediate effect of the services is so much to be desired by individuals that the more distant social and economic effects of reducing the death rates rapidly, in perhaps two-thirds of mankind, are quite generally overlooked.

These health services should be established and made effective whenever possible, but we do urge that the more distant social and economic effects of these health services should be anticipated and deliberately controlled as far as this is possible. Indeed, under certain circumstances, we should be prepared to defend the thesis that an efficient public health-service in the underdeveloped areas of the world is an essential prerequisite if rapid headway is to be made in the establishment of a world-population policy, the purpose of which would be to bring about a better adjustment of the rate of population growth to the rate of increase of the goods and services man needs to assure himself of a decent level of living.

Stated briefly, the circumstances under which we should be justified in urging better and better health services are: (1) that the health services staffs from the top to the bottom, are made fully cognizant of the effects of their work on the growth of the population. Including the fact that the more efficient the health services become the more rapid the growth of the population will be;⁽²⁾ that the health services of a country and its physicians where private practice prevails, are ready and willing to inform the mothers, who bring young children to them for advice regarding their care, that they can control the size of their families and are also willing to show them how this can be done if the mothers are interested and want to know. At present, in underdeveloped countries, few mothers know that the voluntary control of the size of the family is possible and even fewer know how to exercise such control.

Perhaps the greatest obstacle to the establishment of a world-population policy is the fact that very few nations are ready to adopt national policies and in the underdeveloped countries whose governments have openly espoused population policies they can not implement them quickly. Until the mass in any country are able to control the size of their families and are willing to do so, no government can guarantee co-operation with other nations in a world-population policy aimed at adjusting man's numbers to his ability to support them well. But

there are also other serious obstacles to the formulation and implementation of a world-population policy — nationalism, racism, ideologies and perhaps most of all, the sheer inertia of traditionalism in most underdeveloped countries. The importance of these several obstacles will vary from country to country and it will be impossible here to discuss all these obstacles as they operate in different countries and among different peoples. Nationalism as an obstacle to the effectuating of a world-population policy perhaps needs little discussion as it is quite widely realized today that the citizens of every country are generally much more concerned with the welfare of their fellow countrymen than with that of the people in the other countries. Racism is of importance because now for the first time the coloured peoples of the World see a chance to attain equality of living conditions with the whites. Indeed, by reason of their present numbers and their more rapid growth, some of their leaders are hoping not only to become equal with the whites economically but also to become dominant politically. It is not surprising that some of the leaders of these people are reluctant to adopt a population policy which would equate the growth of the coloured peoples with that of the white peoples.

As regards the conflicting ideologies of different people, it must be recognized that orthodox communism denies that the growth of population poses any threat to the welfare of man and this doctrine appeals to many of the leaders in underdeveloped countries(2). Moreover, these leaders are often conditioned by past experience to accept the view of the Communists that imperialism, colonialism, and capitalism are the real causes of their poverty and its accompanying hardships. The point here is that several very potent forces make a world-population policy very unlikely to become an effective agency in reducing the rate of population growth in the foreseeable future.

Furthermore, it should be realized that the control of population growth is much less urgent in some regions and countries than in other; i.e. in some countries the population is not growing so fast and/or the natural resources are so abundant that there is little danger of a significant deterioration in the living conditions of the people during the lifetime of the present leaders if their resources are exploited intelligently. In others, the need for slower growth is already urgent. Can any government in any country set up "a most desirable size of family" for its people and enforce the adoption of this standard within a few years? The answer must be No for those countries which still have good, unused land and large natural resources. This being the case, can these countries be expected to cooperate in encouraging slower population growth even though it might hasten considerably the attainment of a higher level of living for their people through more rapid economic development?

Most of the people in any country, even when they know how to control

the size of their families, may be expected to confirm more or less closely to some standard size of family only if they are convinced that their community approves of such control and that it is to the advantage of their own family to do so. There can be no doubt that the governments of most countries, through education and propaganda, can in the course of time influence the Judgement of their people in die determination of what family size is best can also hasten the adoption of the small-family pattern if that seems desirable. But the range of family size within which governmental efforts of this character can operate even in the more developed countries appears to be quite small at the present time. As a matter of fact, when the leaders of the authoritarian governments tried to influence their people to have more children, they did not succeed because the people as a whole did not agree with the policies of their governments for increasing the size of their families.

The simple fact is that at the present time only a few countries have birth rates and death rates which appear sufficiently low to give some assurance of a decent living for all citizens. The leaders of these few countries might feel sufficiently confident of the direction and the amount of their population growth for several years in the future to feel justified in subscribing in good faith to a world-population policy for the control of population growth. The leaders of most of the nations of the world, however, could not do so even with a small degree of confident in the ability or the willingness of their people to conform to some world standard, chiefly because they do not know how long it will take their people to adopt effective control over the birth rate and how fast the death rate will decline in the next few decades. (This assumes that any world-population policy must have as its first and primary objective for the next few decades the reduction of the rate of population increase in those countries which now have high birth rates and in which death rates are falling rapidly). Moreover, as we have already noted, there is no unanimity of opinion among leaders of the high-birth-rate people as to the desirability of a policy to reduce the rate of population growth.

In spite of the fact that no effective world policy calculated to reduce the rate of population growth can be achieved In the future, it is highly desirable to get a statement of world policy regarding population growth from as many nations as possible and even from private organizations in nations unready to declare any official attitude toward population growth. Such declarations of the desirability of population control or even in opposition to a policy of population control would-help to get for a while the matter before the people and would almost certainly hasten the thoughtful decision of an increasing proportion of couples regarding the desirable size of their own families. In the long run this decision must be personal, but any expression of opinion, official or private, which stimulates the

consideration of voluntary population control is preferable to ignoring the problem which faces the world when a large majority of the more than 3,000 million people in the world suddenly begin to increase at a rapid rate — 3 percent or more per year — before these people have the know-how and the physical means to increase their goods and services fast enough to say nothing of providing themselves with goods and services increasing faster than their numbers.

3. POPULATION POLICIES OF SOUTH ASIAN COUNTRIES

Recognizing the gravity of the population situation, most countries in the South Asian region have now adopted population policies in one form or another. By population policy, as already stated, is meant any set of official measures to influence the size, growth, composition or distribution of population in a country. Among the policy measures taken in this regard are those relating to health, agriculture, education, employment, housing, status of women, industrial development, rural development, population resettlement schemes, social legislation and family planning. Of these, family planning is a direct measure to influence fertility whereas the others are indirect measures to influence not only fertility but also the other two components of population change, namely mortality and migration. On the basis of the population policy measures, direct and/or indirect, taken by them the countries in the South Asian region generally took following measures: (a) formulated an official policy to reduce the population growth rate. In addition to supporting family planning to implement this policy, countries in this category also support family planning for reasons of health and as a human right; (b) gave official support to family planning activities for reasons other than demographic reasons. Countries in this category usually support family planning for reasons of health and human right.

South Asian Countries, aware of demographic trends and their adverse effect on economic growth and social progress, have embarked on official birth control programmes, which have met with varying degrees of success. These programmes will-publicized family-planning services, legalized abortion, population education and provision of all forms of contraceptive devices. Programmes in India, and Sri Lanka offer family-planning services, birth-control clinics, vasectomies, and contraceptives (including intra-uterine device). The South Asian countries lag behind in formal programmes, but public consciousness and basic planning were growing in the early 1970s. It is not yet clear whether or not methods of birth control will be successful in the short term, but the long term effect is expected to show important decreases in the birth rate.

In India, population policy is oriented toward restraining the rate of increase, on behalf of economic development and of raising the level of the

people. This policy was initiated in 1952, with the first five-year plan and subsequent action has put increasing emphasis upon the need to reduce the widening gap between a lowering death rate and a persistently high birth-rate. The third five-year plan, promulgated in 1961, stated, "the objective of stabilising the growth of population over a reasonable period must be at a very centre of planned development".⁽³⁾ The plan called for a large-scale programme of education and motivation for family planning, provision of birth control advice and contraceptive supplies, and government-sponsored research in demographic trend, contraceptive methods, and family-planning motivation. Family-planning clinics were established in a large number of rural areas; and family-planning services are available at expanding, with the government subsidizing the manufacture and distribution contraceptives. The question of how to make the programme more effective is under constant study. At the request of the government, the United Nations sent a team of experts to India in 1965, "to assess the problems involved in accelerating the adoption of family planning by the people and to advise the government on action that might be taken for this propose".⁽⁴⁾

The law against induced abortion has not been relaxed and pregnancy may be artificially terminated only to save the life of the mother. Voluntary sterilization, however, is regarded as an acceptable means of preventing births, and the practice seems to be spreading. Another fact of Indian policy has to do with the effort to raise the average age at marriage. In this connection, the seventh five-year plan places special emphasis on the education of women and on the provision of new employment opportunities for women.

Although the situation in India has been emphasized here, it should be made clear that India's problem of equating the growth of population with the expansion of its economy is not essentially different from that of most other South Asian Countries. Every improvement in health services will reduce the death rate, provided even the present low per capita consumption of the necessities of life can be maintained. But if every improvement in health services to mothers and their children can also be made to contribute to the wider spacing of children, the birth rate might decline substantially before urbanization and industrialization can be relied on to assume an important role in keeping the birth rate at a desirable level.

As far as the population policy of Pakistan is concerned it revolves round the theme that the population welfare is a realistic endeavour to reconcile family size with individual needs and national resources. It seeks to ensure a harmonious blend between people's aspiration and the nation's needs. For this purpose, the first government programme of population welfare which was initiated in 1965 was marked with elaborate administrative infrastructure at the federal, provincial and the district, levels including indigenous mid-wives as basic field

functionaries. Later, evaluation of this approach, however, indicated, that the programme succeeded in disseminating information, family planning practice was only 6 per cent.

The second approach covered the various operational units of the country with male-female motivator teams. The central feature of the continuous motivation system (CMS) included quarterly visits of teams to the eligible couples for door-step delivery of supplies as well as for motivational purposes. The teams also kept house-hold records for recruiting potential acceptors and making referrals to clinice. The evaluation of this approach indicated that field activities did not live upto earlier expectations.

The third approach provided contraceptive inundation whereby oral pills and other conventional devices were distributed through the network shopkeepers and local agents as well as hospitals, clinics and field-worker for ensuring availability to the practising couples. The Pakistan Fertility Survey, however reported that only 22 per cent of eligible women knew the sources of information and services.

During the fourth phase, family planning was integrated with national public health programme. This arrangement was conceptually sound and was hence, supported in principle. Nevertheless, the complexities of integrating the two large programmes, i.e. health and population, presented various difficulties and administrative problems. The real understanding of the importance of health and population planning remained lacking among both health and population staff. Population planning continued to be viewed primarily as a means to reduce the average family size and the population growth rate, with little or no emphasis on the interventions to reduce infant and maternal mortality, while the health programme continued to emphasise preventive and curative health service.

In 1980, realising the need of ra coordinated approach, the population planning programme was placed under the umbrella of Ministry of Planning and Development and a multi-sectorial approach commenced through health outlets of a number of governmental and non-governmental agencies as well as family welfare centres of the population welfare programme. Local community participation, particularly that of women, began to be enlisted for motivation, education and service delivery.

The strategy during the sixth plan involved a shift from the uni-purpose family planning approach to a close inter-relationship between population resources, environment and development. It, thus, followed a multi-sectoral and multi-dimensional approach. For better acceptance of family planning participation of all relevant government departments and NGOs, the private sector and local leadership was encouraged, greater emphasis was placed on training and

motivation of community leadership, media and programme personnel. Concerned staff of demographic, bio medical and social research activities was strengthened in order to improve "their efforts towards a better acceptance of family planning services.

During the sixth plan period the family planning programme averted 1.3 million births which included 0.3 million births due to the carry over effects of IUD insertions and contraceptive surgery cases. The number of birth aversions which was 0.2 million in 1983-84 increased to 0.4 million in 1987-88 while the number of acceptors of various contraceptives increased from 0.9 million in 1983-84 to 1.9 million in 1987-88.

During the sixth plan period the gross allocation for population planning and welfare programme was Rs. 2.3 billion and the net allocation Rs.2.2 billion.
(5)

The strategy in the latest plan i.e. seventh five year plan of Pakistan has been based upon active support and participation of relevant government departments, public institutions and the private sector in providing services and promotional programmes.

The main features of the population welfare programme are as follows:

1. Refinforcing the multi-sectoral approach for great social acceptance of the small family norm and' to cater to growing demand for service through a well knit service delivery system.
2. Giving recognition to the inter-relationship between population, resources, environment and development,
3. Shifting to more effective contraceptive methods, contraceptive surgery, IUDs and injectables;
4. Designing and implementing a more effective communication strategy directed towards clearly defined target groups to promote and accelerate family planning acceptance;
5. Strengthening field supervision from the federal to the grass-root level and
6. Introducing special incentives to accelerate acceptance of small family norms.

The programme also envisages the provision of maternal and child health (MCH) services through the programme's own service outlets, in addition to family planning services. This is expected to (i) narrow the gap between, the awareness and the actual use of contraceptives, (ii) increase breast feeding practices, (iii) improve the health of mothers through birth spacing and (iv)

decrease infant mortality.

The population welfare programme for 1983-93 is a rolling plan within the perspective plan. The plan comprises the programmes of the four provinces and the federal government. The federal programme includes policy planning, setting of national target, securing foreign assistances, contraceptive supplies, training, information education and communication (IEC), monitoring, research, evaluation, social marketing of contraceptives, involvement of Non-Government Organizations (NGOs) and extending family planning facilities and services.

To conclude, the general population welfare policy and programmes in South Asian Countries include improved and expanded service delivery of contraceptives, establishment of family welfare centres which will provide package of services including family planning, mother and child care and health education, provision of mobile service units, involvement of semi-government and private organizations, establishment of institutional framework for family welfare, introduction of population education as a discipline in education system and use of mass media for attitudinal change among the populace. But in the light of outcomes of these steps it is the emergent need that the South Asian Countries will have to include some revolutionary measures in their official population policies to curb the population explosion in the region.

4. POPULATION EDUCATION AS AN INTEGRAL PART OF POPULATION POLICY IN SOUTH ASIA

Almost all countries in South Asia started family planning programmes in the fifties and sixties in order to curb rapid population growth. Some of these programmes included an information-education communication (IEC) component as an integral part. The IEC component generally used the mass media, oversimplifying complex issues in the process. For example, a message frequently conveyed was that "small family is a happy family". This simple assertion could hardly be considered as true or meaningful in many situations. The main purpose of the family planning information activity in this narrow sense was to create awareness of the possibility of controlling the number and frequency of births by means of various contraceptive techniques.

The family planning programmes of South Asian countries have, with few exceptions, not been conspicuous successes. This lack of success may be attributed to such factors as the high level of illiteracy among the people, the low status of women, social and religious preferences, and the absence of any system of social security. In any case, it has been increasingly recognized that programmes of information-education-communication addressed to adults on a simplistic basis are not sufficient. Adult programmes should have a strong component of education, but at the same time it is necessary to provide relevant

education for the' child of today who will be the adult of tomorrow.

In South Asian countries, children under 15 years of age constitute about 40 to 45 per cent of their population. These young people will constitute the adult population in the next few decades, and their reproductive behaviour and attitude towards family size will be of central importance in determining population growth. They need to become aware of the problems caused by population pressure for the individual, the nation and the world, and to be provided with an education that would help them to make decisions with regard to population issues. Probably, a combination of various methods inducing population change is needed to solve the problem, and among them education adults as well as children, the parents of the future, may be one of the most influential. As to what kind of education will be most effective is still an unanswered question. There are immediate problems of trained personnel, in this new field, as well as of materials which can be used by educators, teachers and students.

As a result of the recognition that education is an important instrument for bringing about changes in attitude and behaviour, many countries in the Asian region have taken an Interest in developing population education programmes. Initially, the concern of population education was to supplement family programmes through the formal education system. Since then, a broader concept of population education has developed in South Asian Countries. Population education, as presently conceived, aims at developing an understanding of the processess and consequences of population change on the family, community, society, nation and the world, and develop such attitudes and behaviours as may help in making responsible dicisions. Many countries have initiated population education programmes for the formal school system, but recently they have been extended to out-of-school adults and youth in a few countries.

Unesco became involved in population education in the late sixties. The United Nations Fund for Population Activities (UNFPA) has also recognized the role of population education in promoting an understanding of the problems arising from rapid population growth and excessive urbanization. It has provided financial support to national and international programmes in population education through Unesco, ILO, FAO, WHO and through the UNDP country programmes.⁽⁶⁾

At the national level, population education programmes stem from the population policies adopted by the respective governments. Population education activities are in this sense carried out within the framework of national development programmes. Two countries in South Asia, Bangladesh, and Sri Lanka- have national population education projects funded by the UNFPA, while Pakistan and India have programmes Jointly funded by World Bank and other

international agencies. In some countries separate units or cells for population have been created. There are also countries in the region which have not developed any organized programmes in population education as yet. Thus, population education is at different stages of development in the South Asian countries, but almost all the countries having population policies show an awareness and interest in developing population education programmes for the in-school as well as out-of-school population as an important component of their national development activity.

5. MODES OF COOPERATION

Cooperation is a joint or collaborative behaviour that is directed towards some goal and in which there is some common interest or hope of reward. It is always good to regard cooperation as an ethical norm, as a social process, or as an institutional structure. In ethics and religion, cooperation has been among the most honoured of values throughout human history closely related to competition, cooperative effort is one of the central mechanisms of revolution. Hence cooperation of all the countries of South Asia in the effort of population education and welfare may accelerate the best of achievement of objectives. Following modes and methods for inter-country and intra-country cooperation may be of some importance in this regard,

5.1 Conferences and Seminars

Conferences and seminars have become a recognized method of launching a new programme, validating a new approach, and establishing a climate of cooperation and coordination between the experts from various parts of the region. A conference or a seminar is a meeting of individuals called together to engage in discussion with the aims of accomplishing a limited task within a restricted period of time. Conferences and seminars in the field of population at national and coordination among the professionals. These may bring together all the agencies, organizations, governments and individuals who have a permanent working relationship in the field of population education. These may bring together thousands of delegates and observers to consider a wide range of population problems, substantive discussion on the matters relating to population of delegates to a new viewpoint, the validation of a proposed programme of population welfare, and the preparation of a new set of resolutions, suggestions and recommendations for population welfare and control at national and South Asian Regional level. Ideally, the arrangement of a conference or seminar in such that all its members sit facing one another in a way that their interchange is mediated and dominated by none. This method of Inter-change is very much effective in this age. Besides other merits, conferences and seminars may also provide a ready made focus of attention of Intra-country as well as Intra-

institutional research in the field of social demography. Conference and seminar technology must be actively employed as a means of national and regional cooperation in South Asian countries.

5.2 Workshops

Workshops are a relatively new area of activity for cooperation, coordination, training, and exchange of ideas. It has been proved helpful at the national regional many thousands of people at the regional and state levels. Regular conduct of workshops in the field of population education and welfare followed by its follow up at South Asian level may prove much helpful to achieve the objective of cooperation and coordination. Workshops can also be a good device to help the personnel of population education and welfare to learn their job, improve their skills and get latest information about procedures and practices of population welfare in the region. Unesco and SAARC can arrange such workshops to achieve the end of regional cooperation and coordination. During the sessions of such workshops the delegates may also learn about their duties and responsibilities and question the professional people who serve as advisors during the workshop. Such workshops may have their purpose as the exposure of participants to new ideas or the eliciting from the participants of ideas to encourage change in the field of demographical studies. These are also the vehicles of stimulating change in the region. Career information workshops should be periodically and regularly arranged at national and South Asian level.

5.3 Coordination/Cooperation Cells

Population welfare and population education can only bear its fruits if it is taken as joint and collaborative effort on national as well as regional level. This coordination may be direct or indirect, formal or informal, but there should always be a combination of efforts towards a specific end of population welfare. At higher intellectual levels coordination and cooperation should involve reciprocity of intent as well as jointness of efforts and activities/projects. This coordination should have a formal institutional structure in the name of coordination cells. These should be established initially at two levels.

1. At National Levels

Each country of South Asian Regions should establish "National Coordination Cell for population Welfare" (NCCPW) under the Ministry of Education and Social Welfare whose main functions may include:-

- i) To coordinate efforts of different agencies, organisations and individuals in the field of population welfare in the country.

- ii) To disseminate the literature, research findings and successful experiences in the field of population welfare.
- iii) To act as resource centre for the researchers, agencies, organisations and individuals in the field.
- iv) To provide advisory services in the field.
- v) To act as "stock exchange" in the field of population welfare and education.

2. At Regional Level

A coordination cell with the name "South Asian Coordination cell for Population Welfare and Education" (SACCPWE) should be established under the auspices of SAARC Secretariat and it should perform the same functions at SAARC level which NCCPW is expected to perform at national level with the additional function of coordination among all NCCPW'S in the South Asian Countries.

5.4 Exchange of Experts and Literature

Exchange refers to the transaction of resources, personnel, product and services with in a society or from one society to the other society. From primitive non-currency days to this computer age this exchange process has been very much useful for benefitting from one another's efforts. Reciprocity rather, better to say, obligatory reciprocity has been described as the best of three modes of exchange by Marcel Mauss and Karl Polanyi.⁽⁷⁾

Regular exchange of literature on population welfare and education at regional level through proposed SAARC coordination cell may help the countries to benefit from successful and effective experiences of others. Similarly visits of experts on reciprocal basis or through International agencies like SAARC or Unesco may triable the professionals to visualize the ongoing projects on population welfare and education in different parts of South Asian region. Short-range and long-range programmes of visits of professionals must be designed at regional level. A full illustration of how reciprocal exchanged can not be presented here.

5.5 Displays

The great displays are also great events that give visible proof of the productive efforts and exchange relations that can be mobilized to reaffirm and celebrate the activity and system.

Displays of current activities of population education and welfare

programmes operative in various countries of South Asian region may also work as a productive means of cooperation among these countries in this effort. These displays will be a witness of operations and achievements in the field of population education and welfare in the neighbouring societies. Such displays may portray the social worth of individuals, groups, agencies and governments and may inspire the others to work on the same lines. These displays may include goods, posters, brochures, gold and silver bracelets, photos, sketches, slides, transparencies, video-films, advertisements, and so on. These displays should be exchanged between the South Asian Countries on "Redistributive Exchange Basis (REB)".

Conclusions and Suggestions

It can be concluded from the foregoing discussion on population policies and modes of cooperation that population policies and experiences of South Asian countries are part of the world population policy. It must be concluded that knowledge about the interaction between population trends and economic growth is still imperfect and that there is plenty of room for honest disagreement about which of the population policies will be most effective in securing the general welfare. Although it is reasonable to contemplate the prospect of stationary populations in the advanced countries of North America, Western Europe, and Japan, the possibility is remote in the South Asian countries. The period of the 1960's was one of rapid development in the area of population policy, especially among South Asian Countries. Many influences social, political, economic, religious were at work, both in and outside of government and at both national and international levels. Population policies of south Asian countries veiterate the theme that the objective of population control programme is to give the married couple a choice of having children or not having them and of determining the timing and number of births. The normative principle is that all children should be wanted. Population size would thus be governed by the number of children people want to have. But almost without exception people in South Asian Countries opt for a number of children significantly in excess of that required to replace themselves, even after they have been exposed to population control education they apparently choose smaller families, but still larger than replacement size. This requires some revolutionary changes in the population policies of South Asian countries so as to achieve the objective positively.

As regards the modes of cooperation and coordination, seminars, conferences, workshops, displays, exchange visits and the formation of coordination cells at national and regional levels should be actively employed.

6. SELF ASSESSMENT QUESTIONS

Q.No.1	The statement given below provide a description of a specific concept discussed in the Unit, Write down the tern of that concept, to which the description most appropriately be associated, in space provided in the beginning of the description.
1.	_____ is a Joint or collaborative behaviour that is directed towards same goal.
2.	_____ may be direct or indirect, formal or informal but there should always be a combination of efforts towards a specific end.
3.	_____ refers to the transaction of resources, personnel, product and services.
4.	_____ great events that give visible proof of the productive efforts and exchange relations.
5.	_____ may be defined as legislative measures, administrative programmes, and other governmental actions intended to alter or modify existing population trends in the interest of national survival and welfare.
Q.No.2	Fill in the blanks with most appropriate word.
1.	Beside other merits, conferences and seminars may also provide a ready-made _____ of attention.
2.	Regular conduct of _____ in the field of _____ population education and welfare at national and regional levels may be helpful to achieve the objective of cooperation.
3.	More than _____ the population of the world, and about _____ of the population of Asia and suffering from poverty.
4.	After world War-II the fertility rate was approximately _____ percent
5.	_____ denies that the growth of population poses any problem to the welfare of man.
6.	_____ five year plan of India places special emphasis on the education of women.
7.	Population welfare programme in Pakistan was initiated in _____
8.	In 1980 population planning programme in Pakistan was placed under the umbrella of Ministry of _____
9.	During the Sixty Five year plan period in Pakistan the gross allocation

	for population planning and welfare programme was
10.	Unesco became involved in population education in late _____
Q.No.3	In the questions given below four probable answers have been provided. Only one is the correct answer. Encircle the correct answer.
1.	<p>Drive for larger native and racially pure population may be directly associated with the political and territorial ambitions of,</p> <p>a) Western powers</p> <p>b) Asian countries</p> <p>c) Axis powers</p> <p>d) Religious institutions</p>
2.	<p>Besides other benefits which one of the following may be helpful for the training of population personnel:</p> <p>a) Seminars</p> <p>b) Conferences</p> <p>c) Workshops</p> <p>d) Exchange visits</p>
3.	<p>In which pair of the countries there was once recorded an excess of deaths over births</p> <p>a) United Kingdom and France</p> <p>b) France and Austria</p> <p>c) Austria and Italy</p> <p>d) Italy and Japan</p>
4.	<p>The world population policy emphasized upon.</p> <p>a) Health services</p> <p>b) Social services</p> <p>c) Economic development</p> <p>d) Birth control</p>
5.	<p>The most, serious obstacle in the formulation and implementation of a world population policy is:</p> <p>a) Nationalism</p> <p>b) Racism</p> <p>c) Ideologies</p>

	d) Traditionalism
6.	Which one of the following is the best mode of exchange.
	a) Reciprocity
	b) Obligatory reciprocity
	c) Market
	d) Seminars
7.	Public consciousness and basic planning in population started in South Asian countries in:
	a) 1950s
	b) 1960s
	c) 1970s
	d) 1980s
8.	For validating a new approach in population education, which one of the following will be most suitable:
	a) Literature
	b) Conferences
	c) Workshops
	d) Reciprocal Visits
9.	Number of birth aversions in 2002 – 2003 in Pakistan was:
	a) 0.2 million
	b) 0.3 Million
	c) 0.4 Million
	d) 0.5 million
10.	Conferences and seminars are best means of:
	a) Exchange of persons
	b) Exchange relations
	c) Demonstration of output
	d) Preparation of new set of resolutions and recommendations
Q.No.4	Outline briefly the elements of a population policy.
Q.No.5	Name the three forces which can be considered as the functions of demographic trends.

7. KEY TO SELF ASSESSMENT

Q.No.1	1)	Cooperation				
	2)	Coordination				
	3)	Exchange				
	4)	Displays				
	5)	Population Policy				
Q.No.2.	1)	Focus				
	2	Workshops				
	3)	Half, three fourth				
	4)	2.5 to 3.0				
	5)	Communism				
	6)	Seventh				
	7)	1965				
	8)	Planning and Development				
	9)	2.3 billion				
	10)	Sixties				
Q.No.3	(1)	c	(2)	c	(3)	b
	(4)	a	(5)	d	(6)	b
	(7)	c	(8)	b	(9)	c
	(10)	d				
Q.No.4.	1.	Examination of past				
	2.	Current demographic trends				
	3.	Appraisal of the future demographic changes.				
	4.	National Interests				
	5.	Evaluation of the social and economic consequences of expected demographic changes.				
	6.	Measures to bring about desired changes or prevent undesired ones.				
Q.No.5.	Fertility, Mortality and Migration					

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**AGENTS AND KEY PERSONNEL IN
POPULATION EDUCATION**

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CONTENTS

	Introduction	452
	Objectives	453
1.	Population Education & National Development	455
2.	Role of Catalytic Agent	455
3.	Teacher	456
4.	Teacher-Trainer	458
5.	Curriculum & Text-Book Writer	459
6.	Supervisors/Administrators	459
7.	Doctors/Para-Medical Staff	460
8.	Political Leaders	461
9.	Religious Leaders	461
10.	Head of Family	462
11.	Media People	463
12.	Self Assessment Questions	464
13.	Bibliography	468

INTRODUCTION

The study of population has long been a subject of interest among social scientists and among all those who wish to understand the basic problems and needs of human beings. In recent years, all the countries are paying full attention to their populations problems. There has been significant progress in the field of population studies and research and more recently in population planning and population education in the Asian region. More and more recognition is given to the effects of population growth on the region's social economic and individual development; and a rapid rate of population growth is recognized as a factor that could be detrimental to the social and economic development of a country, unless appropriate constructive measures are undertaken.

The study of population deals not only with the size of a population but also its composition and distribution, growth and change. Some of the important questions which are related to these factors include; how many people live in a given area; what changes are taking place in the size of the area and why; what kind of people live in an area and how different they are from the people in another area in terms of age, sex, race and other characteristics; how are people distributed in the area and what changes are taking place in their distribution.

Many countries have regarded population as a major problem and required their educational systems to deal with it appropriately. Hence, population problems are to be reflected in their educational systems. The inclusion of population related materials and concepts in the text-books certainly help the individuals to understand the various problems of population in the country and will also suggest the measures to cope with these problems.

Population education provides learner with an understanding of the relationship between population growth and dynamics and various aspects of the quality of life.

A population education programme consists of (i) the collection and analysis of population data; (ii) the nature of population growth and human development; (iii) the problems of urbanization; (iv) family life education; and (v) planning to cope with the problems of urbanization and population growth.

As a pre-requisite to the formulation of a national programme of population education, it is necessary to identify the target groups which should be exposed to population education for propagation of its various concepts in the masses. It must include the precise objectives in respect of each groups; the resource persons to be used for reaching each target group; the instructional strategies to be used; the mechanism for the production of instructional materials;

research needs and problems; and programme evaluation.

In brief, population education is a programme which is planned, integrated and sequential. Population education is the educational process whereby individual learn, (i) the causes and most important the consequences of population phenomena for themselves, their communities and the environment and (ii) the possible effective means by which the society as a whole and they as individual can respond to and influence these phenomena in order to enhance the quality of life now and in the future. It is anticipated that as a result of increased awareness both of the consequences of population changes and of the consequence of own population related behaviour, individuals will be able to make better informed and conscious decisions concerning their own behaviour, both individually and as a member of a society.

OBJECTIVES

The objectives of the unit are:-

1. Conceptualize the meaning of Catalytic Agents and Key Personnel.
2. Describe the meaning and importance of population education.
3. Point out the roles of various key personnel for the introduction of population education in the society.
4. Understand the implications of population related problems for the community development.
5. Analyze the population problems and suggest the ways and means to overcome those problems through Key Personnels.

1. POPULATION EDUCATION AND NATIONAL DEVELOPMENT

Public leaders, educationists and economic planners in Asian countries are now fully aware of the importance of population education. All of them know that population education is playing a significant role for human resources development. Population education prepares and helps the individual to participate in the social/national development in the following ways:-

- a) Understanding the determinants and consequences of population change.
- b) Examining their own attitudes and values in relation to a changing population situation.
- c) Making decisions that are responsible and based on understanding and not ignorance of chance or fate.
- d) Appreciating that he can make a difference in the kind of society he wants to live in or the kind of society he wants his children to live in i.e to some extent he can control his destiny.

2. ROLE OF CATALYTIC AGENT

Who proposes a change and how do they go about it. The identity of the originator greatly affects acceptance or rejection. Innovations which are first adopted by persons at the top of the prestige scale and power system are likely to filter downward quite rapidly; those first adopted by low-status persons are likely to percolate upward more slowly, if at all. Successful change agents often seek to make the change appear by identifying it with familiar cultural elements. King Ibne Saud introduced radio and telephone to Saudi Arabia by quoting the Holy Quran to them.

Change agents must know the culture in which they work. This point is stressed in many of those guide-book prepared for the officials working developmental programmes in under developed countries.

Strangely enough the efforts of the change agents are not always appreciated. However, continuous efforts should be made to achieve better results. Population education being the need of the time requires a through propagation and as such the various agents are required to work continuously till the desired results are achieved.

Population education programmes seek to influence the understanding of different people regarding population related issues and develop in them appropriate skills required for analyzing and defining issues in a way which are

personally meaningful and socially relevant. Those who are more capable may be asked to spread the messages of population education all over so that the masses are aware of the problems caused by population size and distribution. They should also try to motivate them to handle these problems. Here we are giving a list of persons key personnels and Catalytic Agents-who can actively work for the introduction of population related concepts among the people living around them:

1. Teachers
2. Teacher Trainers
3. Curriculum and Text Book writer
4. Supervisors/Administrators
5. Doctors/Para-Medical Staff
6. Political Leaders
7. Community Leaders/Workers
8. Religious Leaders
9. Head of Family
10. Media Artists

What is their job-description? How they contact with the People? What can they do for the introduction of population education concepts? All these questions are being answered in this unit.

3. TEACHER

The teacher is a pivot around which the whole system of education revolves. The teacher must be a dedicated person. His code of ethics encourages him to be self-sacrificing, finding pleasure and joy in nurturing young minds and the persons living in the society, inspiring right attitudes in the students towards themselves, society and the country.

Teacher has always been regarded as nation-builder. He is always anxious to see that each of its products (students) is facilitated with the practical know-how of leading a dignified, harmonious and balanced life. Pupils learn the art of successful living in the school. Teacher helps them in this respect. By virtue of his position he can bring constructive changes among the children.

So he must be aware of the implications of times - the social forces and conditions influencing the educational endeavour. He should study the changes in the society and be able to identify the societal ingredients that have implications for education.

The world, today, is a rapidly changing world. New goals are being set up to achieve readjustment of society to new situations. Population growth is becoming serious problem for most of the countries and it is the teacher who can develop its awareness amongst his pupils. He is in a much better position to strengthen the capacity of the pupils, within his area of professional expertise, to deal with population issues. He can give training for bringing about attitudinal changes in others. In some countries, like Pakistan population questions are especially sensitive areas on account of past traditions, customs, religions & cultural bindings. Teacher is the key person who can overcome such difficulties or problems.

The teacher can integrate population education with other subject areas so as to draw a specific picture concerning specific population issues and problems. He can emphasize the concepts of the family as unit, the family composition and child rearing practices that contribute to family size and the idea that a small family helps healthy relationship within a family. The teacher may explain the effect of rapid population growth by relating the national economic situation to that of the individual's situation. The problems of adjustment in life, too, be exemplified.

The adoption of the small family norm, the importance of interpersonal human relationships and other basic values concerning the individuals, the family and the community can also be a component part of the teacher's programme to bring the desired change in the pupils. Since teachers' are the ambassadors from a variety of socio-cultural groups, they can take their knowledge of population education back to their pupils and educate them about population related issues and problems.

Basically a teacher is the key person who provides the information to his students so as to meet his future requirements. Teacher can effectively convey the content/concept to the children if he has knowledge about the effect of population on socio-economic conditions and is convinced that population education is a necessary concern of today. For example, if a teacher is not clear about 'population education' concepts and he is not convinced with the importance of the theme it would not be possible for him to teach it to the audience. So it is necessary for a teacher, who is assigned the job of teaching population education concepts, to be able to have full knowledge about the historical background of emerging population education concepts. He should know the techniques of conveying the message of population education effectively and efficiently.

1. He should have the latest knowledge about the population growth rate, existing facilities i.e education, health, food and housing for the population, responsibilities of the parents for meeting the requirements of

their children about education, food, shelter, clothing and other facilities.

2. He should keep his eyes on the current population changes and its effect on the society. He should discuss the population problems with his students. He must encourage his students to conduct surveys about the family requirements. He should compare the requirements of a small family with that of a large.
3. One important role the teacher can play is that he should bring a positive change among the parents/children/society so that they may think about the population problems and their effects on the quality of life.

In brief, since teacher is a person who has a great influence on the people and receives respect from them for the job he does, therefore he should be given up-to-date knowledge about population education and be encouraged to serve the people waving problems related to family planning and health etc.

4. TEACHER TRAINER

For producing better teacher, teacher-training institutes have to work hard. Provision of highly educated teacher-trainer is the first requirement of a good teacher training institute. The other important requirements are: the provision of well designed teacher-education curricula, educational equipment and technology, the use of modern teaching strategies and research activities.

Our teacher-trainers traditionally prepare the teacher as a person who is meant to preach. Let them be trained as men of action doing things for the betterment of society.

For introducing the population education concepts to the prospective teachers, the teacher-trainers are required to:

- a) Provide information about the population's present situation.
- b) Make them aware of the advantages of balanced population growth and the disadvantages/ problems of its in-balance growth.
- c) Give them the understanding of the factors/causes and effects of rapid population growth on the natural, economic, socio-cultural resources.

The teacher-trainers should introduce all these activities to prepare the future teachers.

Teacher trainer is the key person who can play a significant role for introducing the population education concepts to the teachers under training. Various concepts can be taught under different topics / subjects. Debates, seminars and discussion about different population concepts/problems be appeared in the teacher training institutes and the pupil-teachers be encouraged to

participate in such activities. Teacher-trainers can involve the teachers being trained to conduct surveys on the population education oriented topics. In this way student teachers will get direct information about the population problems. Teacher educators should also propagate the cause of population education in general public through seminars, conferences, symposia etc. An independent course on population education can also be included in the teacher-education programmes. Short courses for in-service teachers be conducted for orientation of population education concepts.

5. CURRICULUM AND TEXT – BOOK WRITER

Curriculum is considered to be a body of courses arranged in a sequential order keeping in view the objectives of teachers and community. Curriculum planning is the key for directing the community towards the desired way of life.

Success of the education system of a country mainly depends on the teachers who effectively implement the curriculum through teaching in the classrooms. What is included in the curriculum? What type of content a text-book contains? Analysis of these two aspects determines the nature and quality of education we want to deliver to the future generation. It is true that the teacher also contributes through the ways of presentation of the material with the help of proper teaching strategies and the aids. But the teacher is bound to follow the curriculum and the content given in the text-book. If nothing about population education is included in the curriculum and text-books, this concept cannot be communicated to the future generation. It is, therefore, evident that curriculum planners and text-book writers must select the appropriate educational objectives to be achieved, and suggest the means i.e contents and methods through which the specified educational objectives can be achieved. It means that introduction or non-introduction of new knowledge/concepts mainly depends upon the will and wish of the curriculum planners and test-book writers.

From the above described roles of curriculum planners and text-book writers, it is clear that both of these professionals are helpful in introducing the population education concepts effectively.

Curriculum planner may choose any one of the approach for the inclusion of population education concepts in the curriculum.

6. SUPERVISORS / ADMINISTRATORS

Some officers like Director of Education, District Education Officer or Assistant Education Officer perform two types of assignments i.e supervision and administration. Population Education Programme cannot be properly introduced if these people are not convinced with the theme or philosophy of the programme. If

they do not remove the hurdles for the teaching of this concept, it would not be possible to popularize this programme in the educational institutions. Provision of the relevant material and facilities is the main responsibility of the educational administrators. For example, preparation and purchase of instructional material relevant to the population education is possible if the administrator provides the resources in terms of finances or material. The Education Supervisors are supposed to encourage and guide the teachers for the teaching of population related concepts. They may hold refresher courses, educational conferences and research activities on the population problems to acquaint the working teachers with the new concepts on population education.

The educational administrators conduct the local surveys with regard to the planning for the provision of educational facilities in the areas of their jurisdiction. Such surveys help them in better planning for the provision of educational activities. Implementation of plans is a function of management. Planning and management of such programmes will certainly help in the national development. Both the supervisors and administrators may look at the changes being occurred in the population and prepare plans to meet the requirements of those changes.

Educational Supervisors and Administrators must get training in gathering statistical data about the population, schools teachers, students and facilities available in educational institutions. They should also be able to treat this data and draw conclusions with regard to the future educational demands. These are the persons who can report to the higher officials about the future demands of the era. They will also work with the people of the area to raise their efforts/resources for meeting the requirements.

7. DOCTORS / PARA-MEDICAL STAFF

The contribution made by medical practioners (Doctors and Para-Medical Staff) to the general health of a population has always been appreciated. Control and eradication of communicable diseases; the spread of public health services; improved environmental sanitation; research break-throughs in preventative and curative medicine; better supply and distribution of food, improvements in the environmental and care about malnutrition and under-nutrition cases are the measures which the medical staff has initiated for the provision of better health facilities. All the above mentioned topics are the areas of study in medical education but these are also integral part of the population education programmes. Doctors and other medical staff are well respected in the society as they serve the population by providing them better health facilities. For example, malnutrition adversely affects the physical and mental development of people, thus undermining their quality of life. Doctors and other personnels of medicine are

exerting efforts to combat the problem.

In view of the significant roles played by medical staff for the betterment and welfare of the people living in a society, they can serve as key agents for popularizing the population related concepts. It is expected from them that they would advise the people about the birth control, better health care for mother and child, preventive measures for various diseases and steps for improving the environmental health conditions.

8. POLITICAL LEADERS

Political leaders of the country are bound of providing guidance to the people from all walks of life. They meet the people and discuss the problems with them. They are expected to find the ways to solve educational, policy-makers, executives, evaluators and interpreters etc. They lead the public for solving various problems. They work towards change the minds of the people in accordance with the social demands. They always watch for population changes. They are in a position to guide the people to adopt desirable measures for the welfare of the population. For example, they assess the educational requirements of the area and then they find out ways and means to meet those requirements. Rapid population growth and availability of the resources in the area such as food, health, transportation, employment etc. are basic concern of the political leaders. They can suggest certain alternatives to solve a specific problem. When political leaders make a visit to an area for sharing the problems with the people, they should also have discussions on population education to sharpen awareness, encourage participation and stimulate the thinking of people with respect to these issues. Political and community leaders have a greater responsibility for promoting the cause of having comfortable houses with all possible amenities of life which will ultimately ensure our collective well-being. In brief, the political leaders are opinion-forming and opinion-changing persons. They can effectively work for inculcating the sound and positive thinking process among the people with regard to the population related problems.

9. RELIGIOUS LEADERS

Religious Leaders meet the people for educating them to act upon the religious teachings. People also contact them for knowing the right path to live. Guidance given by the religious people is always appreciated by the people. People do recognize the services and contributions of their religious leaders for leading them to live in a noble and disciplined way. It has been noticed that most of the Governments go to the political and religious leaders for having co-operation on different issues. Most of the governments feel their inability to

introduce any new project or theme without the help of the religious leaders. Population planning or population education concepts are still controversial in various countries / cultures / societies like Pakistan. Such leaders are contacted for the legitimacy of such innovation / themes which are to be introduced in the society. People has firm belief in their religious leaders and their leadership. So most of the countries seek their cooperation with regard to the population related concepts. These religious leaders study and express their views about the merit or demerits of introducing these new concepts after consulting the basis and principles of their religious thoughts. If the religious leaders support the new themes or concepts, they are implemented without much trouble.

In view of the above discussion, it is clear that religious leaders' support is extremely valuable and effective for introducing the population related concepts. These leaders can change the minds of the people through their writings, lectures, discussions and visits to various gathering or groups of people. Thus, religious leaders are strong sources of propagating the new ideas i.e. population education among the masses.

10. HEAD OF FAMILY

In Asian region, head of a family normally has a greater influence on his family in decision-making. Usually, males are the heads of family in this region. What is said by the head of family cannot be changed, ignored or disobeyed by an other family member. In Asian countries, head of the family possesses the authority to decide whatever is deemed proper for the existence, development and betterment of the family. No one challenges his authority and it has to be obeyed by all means.

As a mean of preventing opposition from parents who do not understand the aims and activities of the population education, it is necessary to get them acquainted with this new idea to obtain desired results. Training of the parents, in general and the heads of family, in particular, be conducted on various aspects of population related concepts. The information about the following concepts will be helpful for maintaining quality of life of the whole family:

1. Family Size and their requirements
2. Food Habits (Balanced Diet)
3. Health Facilities (Environment, Child Care etc.)
4. Educational Opportunities
5. Economic Considerations

All such topics be discussed with the heads of families and they may be helped to resolve their problems concerning the quality of life of their family members.

11. MEDIA PEOPLE

According to M.G. Luhan, content of a message and the medium of communication are equally important. We may plan the best schemes, if there is no communication, the schemes fail. So communication is very essential and mass media are the most effective means of communication. The tremendous growth of the mass media has contributed greatly to the increasing diversity of the experience to which the adults and children are exposed.

Journalists, T.V. Artists Cartoonists, Programme Producers and other concerned with the Media are the Change Agents in the society. They educate the people concerning different themes and change their minds as desired. People are highly influenced through media. For example, most of the people enjoy watching dramas on T.V. Various informative programmes, such as seminars, discussions, lectures and recreational programmes are the areas of interest for many people. T.V. and Radio Programmes have been useful devices for propagating, popularizing and educating the population-related themes through drama, musical programmes, announcements and lectures. Cartoonists also effectively express the seriousness of various population problems through cartoons, e.g. showing the over crowdedness on transports (bus, vehicles), in the classrooms and in houses etc.

Journalists can also change the minds of the people through writing about the existing situation of population, future projections about population, future requirements of the population with regard to their education, housing, health and other facilities necessary for better living in the community. Expressing the experiences of other nations regarding uplifting the quality of life and comparing their countries' efforts in this respect will certainly motivate the people to do something for raising the standard of life.

Media people (Artists) can organize exhibitions on population education for communicating different messages. Such exhibitions may include plays, slide shows, films, display of posters and models etc. Such activities will attract a large number of people and they will understand the message of population education.

Summary

The population education programmes place great emphasis on the process through which the people decide their population related behaviours. In fact, these programme aim to develop the type of people who can understand,

observe, describe and predict what changes in the population mean; what is the effect on society of having many more youngest people than older people in the population; what affects the growth of population more-birth rates or death rates, etc?

There are many methods to introduce the concepts of population education; through formal and non-formal education systems and through the people who have direct influence on the people. But these influential people who may be named as “Change Agents” should know that population education play a significant role in the national development. These Catalytic Agents or the Key-personnel are expected to work continuously till the desired results are achieved. The responsible persons who could influence the masses regarding population related issues are: teachers, text-book writers, Curriculum planners, educational administrators, supervisors, religious and political leaders, medical personnel, media people and heads of the families. These people are in a position to introduce the population education concepts effectively through adopting various activities and programmes.

12. SELF ASSESSMENT QUESTIONS

Essay Questions

1. How would you define population education? And why should we introduce this concept in the society?
2. Population education is a base for the national development. Discuss.
3. Prepare a list of main population problems which people think as more important. Describe the implications of such problems for the societal development.
4. Suggest the steps to be taken by the following key persons for introducing the population education concepts in the society.
5. Suggest the steps to be taken by the following key persons for introducing the population education concepts in the society.
 - a) Teacher Trainer
 - b) Curriculum Developer
 - c) Media Artists

Multiple Choice Items

1. The study of population deals with:
 - a) The size of population
 - b) Distribution of population
 - c) Increase and decreases of population
 - d) All of the above
2. Population education is the educational process whereby individual learn:
 - a) To do mathematical concepts
 - b) The courses of population growth
 - c) To develop confidence in the class
 - d) None of the above
3. In Asian countries, professionals mentioned below are least interested in dealing with the population problem:
 - a) Teacher
 - b) Doctor
 - c) Media Artist
 - d) Person who is illiterate
4. Most effective professional for preparing a large group of people to deal with the population problems is:
 - a) School administrator
 - b) Teacher Trainer
 - c) Teacher
 - d) Shopkeeper
5. Population education prepares and helps the individual for participating in societal development as:
 - a) Adopting Family Planning Measures
 - b) Producing more children
 - c) Making decisions that are responsible and based on understanding and not ignorance
 - d) All of above

6. Key person whose support for introducing the population education concepts is most valuable is named as:
 - a) Media Artist
 - b) Teacher
 - c) Religious Leader
 - d) Text-book Writer
7. Text-Book writer can effectively introduce population education concepts at school level if he;
 - a) Prepares a separate book on population education
 - b) Add some paragraph in the material already written in the text book.
 - c) Produces the graphic and statistical material in the book
 - d) All of the above
8. Medical doctor can change the people's minds for accepting the population education concepts if he;
 - a) Serves the people in the town
 - b) Shows the pictures / data about population growth to the people and tells about its consequences.
 - c) Visits the sick people
 - d) None of the above
9. One of the assumptions underlying the introduction of population education is that teachers and teacher-trainers can play a positive role in;
 - a) Popularizing the adoption of birth control measures
 - b) Convincing parents to produce fewer children
 - c) Creating a sense of population awareness
 - d) a and b
10. In view of the attitudes of our people towards population planning, it is more desirable to:
 - a) Introduce people through media activities
 - b) Allocate separate staff for teaching population concepts
 - c) Allow political leaders to contact with the people in persuading

them to adopt population control measures.

d) All of above

True-False Items

- | | | | |
|-----|---|---|---|
| 1. | T | F | A teacher is the key person who can effectively provide basic education on population related issues. teacher is the key person who can effectively provide basic education on population related issues. |
| 2. | T | F | Teacher-Trainer adopts the techniques such as debates, seminars, lectures, discussion and others to introduce the population education concepts to the teachers under training. |
| 3. | T | F | Curriculum planning is a best device to prepare the future generation to meet the future challenges of the society. |
| 4. | T | F | Presentation of a paragraph or sub unit to the existing units of curriculum is called as Unit of Study Approach |
| 5. | T | F | Education Supervisors has no significant role for introducing the population education concepts. |
| 6. | T | F | Medical Doctor is the least concerned with population problems. |
| 7. | T | F | Political leaders play various roles such as thinkers, policy makers, evaluators and interpreters in the society. So they are effective in introducing the population education concepts in the society. |
| 8. | T | F | Radio is more effective media for presenting the population problems as compared to T.V. |
| 9. | T | F | Religious leaders are expected that they should lead the society in accordance with the religious sanctions. |
| 10. | T | F | In Asian region, the head of family possesses the authority to decide whatever is deemed proper for the existence and betterment of the family. |

KEY TO SELF ASSESSMENT QUESTIONS

Multiple Choice Items

- | | | | | | | | |
|----|---|-----|---|----|---|----|---|
| 1. | d | 2. | b | 3. | d | 4. | b |
| 5. | c | 6. | c | 7. | d | 8. | b |
| 9. | c | 10. | a | | | | |

True-False Items

- | | | | | | | | |
|----|-------|-----|-------|----|------|----|-------|
| 1. | True | 2. | True | 3. | True | 4. | False |
| 5. | False | 6. | False | 7. | True | 8. | False |
| 9. | True | 10. | True | | | | |

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RESEARCH IN POPULATION EDUCATION

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CONTENTS

	Page
Introduction	472
Objectives	472
1. Concepts of Research	473
2. Major Types of the Research	473
2.1 Historical Research	473
2.2 Descriptive Research	474
2.3 Experimental Research	474
3. What is Scientific Method?	474
3.1 Steps of Scientific Method	475
3.2 Self Assessment Questions – I	476
3.3 Activity No. 1	476
4. Survey Studies and Population Education.	477
4.1 What is a Survey?	477
4.2 Example of a survey study in population Education.	477
4.3 Some titles of Survey studies in Population Education.	478
4.4 Activity No. 2	478
4.5 Evaluation Studies in Population Education	478
5. Experimental Research Designs	479
5.1 Pre-Experimental Designs	4779
5.2 Experimental Designs	479
5.3 Quasi-Experimental Designs	480
5.4 Self Assessment Questions – II	481
6. References	482

INTRODUCTION

In the previous units you studied various aspects of population education and the modes of integrating these concepts in different education programmes of the country. This unit is an attempt to introduce you to the concept of research and the methods and types of research specially with reference to their application in the area of population education. The main discussions in this unit are as under:-

1. concept of research
2. types of research
3. process/methodology of research-steps of research process
4. techniques of research - data collection and data processing techniques
5. examples of research studies in the area of population education with discussion on the previous research studies conducted in the field.

OBJECTIVES

It is expected that after going through this unit the readers will be able to;

1. describe the meanings and concept of research with special reference to its need and significance in population education.
2. discuss various types of research and their application in population education.
3. state different steps involved in the process of research and apply this methodology while conducting research studies in population education and;
4. design some research studies in the area of population education.

1. CONCEPT OF RESEARCH

Research is the application of scientific method for the solution of the problems in any field of life. Scientific method, when applied in various phenomenon help us in reaching the solution for the problems and in the investigation of truth.

Historically speaking, it is the curiosity of man that impelled him to observe the forces of nature and ponder over various events. In the beginning man used only deductive method, but this method did not help him much. Then came the inductive method for gaining knowledge. This method involves the observation of natural phenomenon and to arrive at the conclusions. With the passage of time man mixed these two methods using inducto-deduction method in the investigation of truth and finding new knowledge. It was actually the inductive-deductive method, which lead man to the scientific method of research. The steps of the scientific method will be discussed in detail in the coming paragraphs of this unit, but it is to be mentioned here that the scientific method is mostly used by the descriptive researchers and surveyors in different fields of life.

An other set of definitions has attracted the attention of experimenters in the field of research and these definitions focus our attention on the cause and effect relationship. Population Education has also entered into this field of research and a number of experimental designs have been recommended to be used in this area of education. The researchers in this field have recommended a number of experimental designs in Population Education and these will be discussed in detail in the coming sections of this unit.

To sum up, research is the application of scientific method in the solution of various problems that puzzle mankind. And it is an effort to determine cause and effect relationship in the process of the investigation of truth. We shall now discuss different types of research with the application of these types in the area of population education.

2. MAJOR TYPES OF RESEARCH

The discussion in the types of research can be conducted in many ways. Traditionally historical, descriptive and experimental are the three major types of research.

2.1 *Historical research*

In historical research, the major emphasis is on the types of sources for data collection (i.e. primary an secondary sources) and on the criticism of data (both internal and external criticism). Historical researches can be conducted in the field of population education and this type of researches can be conducted in this area of

education for the determination of past trends and characteristics of population.

2.2 Descriptive research

Description research deals with what exists. All types of surveys are included in this type of research. Scientific method can be very usefully applied in this type of research and I am sure that descriptive research can be very fruitfully used in population education. Research studies dealing with the demographic data and studies for the investigation of existing trends of population etc. all fall in this area of descriptive research.

2.3 Experimental research

Experimental research can also be very effectively applied for the purpose of conducting research studies in the area of population education. Herein the main emphasis is on the determination of cause and effect relationship between different variables. Some designs for the conduct of experimental research studies have been proposed in the later part of this unit.

Besides these traditional and general types of researches; there is possibility of many other types of research; the most significant of these being the projection types of research studies, wherein an effort is made to project future estimates of certain phenomenon. For example, we can observe population growth over the last few years in a country and can very easily determine the approximate rate of the population increase. This rate of population growth can be applied in the calculation of the estimated population in a country over the future plan period. These projections may be named as trend projections. In this way demographic data can be projected over the plan periods and can be used as base data in different sectors and sub-sectors.

Although different types of research designs can be proposed in this area of education, but it is the job of the researchers to design research studies according to their requirements. It is however, to be mentioned that scientific method can be used in all the types of research studies mentioned above.

3. WHAT IS SCIENTIFIC METHOD?

Scientific method involves the verification of hypothesis or theory by observation and / or experiment (Good:6), In brief, the scientific method possesses the following features:-

1. Purpose:-

Scientific method deals with problems to be solved. It is, therefore, highly purposive since there are specific goals that quite the activities of persons, who

engage in it.

2. Theory:-

There is usually a step which involves a "theory" or "hypothesis" or hypotheses concerning the explanation of a phenomenon or solution of a problem.

3. Verification:-

The establishing of a hypothesis or of a theory is followed by observation and / or experiment. Scientific method is distinct from speculation in the sense that it consists of tests in reality.

Scientists have enumerated different steps of scientific method as they are used in the conduct of a research. The three steps mentioned above indicate a process which can be said to have the following steps:

3.1 Steps of Scientific Method

1. Identification and definition of the problem
2. Formulation of hypothesis
3. Collection of preliminary data
4. Retaining one hypothesis and rejecting others
5. Collection of detailed data
6. Analysis and interpretation of data
7. Drawing conclusions
8. Verification/testing the hypothesis

It needs to be clarified here that there is no such thing as a scientific method. It is actually the scientific approach which is used in each field of study. Some elements are common in the methods of research applied in various fields, therefore, the research techniques used in other subject. However, the research studies based on observation and experimentation adopt a common approach sometimes called scientific approach or hypothetic-deductive approach and the same approach can also be successfully used in the conduct of research studies in education and its allied fields like population education.

3.2 Self Assessment Questions -I

a.	Define research _____ _____
b.	Name the different types of researches which can be used in population education. _____ _____ _____
c.	Define Scientific method _____ _____ _____
d.	Name different steps of scientific method.
i.	_____
ii.	_____
iii.	_____
iv.	_____
v.	_____
vi.	_____
vii.	_____
viii.	_____

3.3 Activity No. 1

a.	From the area of population education, propose a topic which you can take up for the conduct of a research in this area.
b.	What type of research can be designed to conduct the study proposed above. _____ _____

4. SURVEY STUDIES AND POPULATION EDUCATION

In the previous part of this unit, you have studied that different type of research studies can be conducted in the area of population education. Out of the three major types of researches i.e. historical, descriptive and experimental, descriptive type of researches are usually designed while conducting research in the area of population education. Survey study is one of the main type of descriptive and other types of descriptive studies being developmental studies and interrelationship studies.

Here, we shall discuss the survey study as the main research technique to be used in the area of population education.

4.1. *What is a survey?*

The survey studies are designed to collect data from a number of cases at a particular period of time and the main objective is to make generalizations which are based on the data collected from these cases.

In a survey study, we manage to apply the scientific method and it is applied almost exactly according to the procedure / steps mentioned in para 4.1 of this unit.

In educational research, there may be school surveys, public opinion surveys, community surveys, documentary analysis and follow-up-studies. All these types of surveys can also be conducted in population education where-in the scientific method is applied by developing hypothesis, collecting the data, verifying the hypothesis and drawing the conclusions. This type of survey studies are mostly conducted in the area of population education and some of the examples are presented as under.

4.2 *Example of a Survey study in Population Education*

In 1962, Mr. Saleem Saeed, conducted a survey study entitled "Effect of Socio-Economic status on Fertility in a Sample of Women in the city of Lahore". The main hypothesis of the study was "the higher the status of the couple, the lower will be the fertility". The study was based on the data collected by socio-economic survey of Lahore conducted in 1960-61. This survey used two schedules one related to socio-economic statistics and the other to fertility indices of house hold surveys. Following were the main findings of the study.

1. Income per capita of the household is negatively associated with the fertility level of women.
2. Number of persons living per room have positive association with the fertility.
3. Education of husband is not associated with the fertility of wives.

4.3 *Some Titles of Survey Studies in Population Education*

Some titles of the survey studies in population education are presented as under:-

1. Akhlaq Ahmed, Difference in the Fertility of Salaried and nonsalaried Groups in the population of Lahore. Social Sciences Research Centre, Punjab University, Lahore.
2. S.M.A Zaidi, Differential Fertility of First Marriage Women.
S.S.R.C, University of the Punjab, Lahore.
3. Abdul Hamid Paul, Difference in Fertility in Various Occupations in a Sample from Lahore population Social Science Research Centre, University of the Punjab, Lahore.
4. Dr. Mahmood .Sotondeh Zand, The Economic Value of Children, National Institute of Population Studies, Islamabad.

4.4 *Activity No. 2*

Propose two topics for studies in the area of Population Education.
1. _____ _____
2. _____ _____ _____ _____

4.5 *Evaluation Studies in Population Education*

Evaluation study is a type of survey, but it can also be a type of follow-up. Some studies of this type have also been conducted in Pakistan in the area of population education and following are some of the titles of such evaluation studies.

1. Evaluation Study on Population Education Project through Formal School System. Population Education Cell, Curriculum Wing, Ministry of Education, Islamabad.

2. M. Naseem Iqbal Farooqi, Evaluation of Population Welfare Communication Programme of Pakistan. N.I.P.S, Islamabad, 1988.
3. Michael and Yameena Mitha, Evaluation of the Outreach Component of the Family Welfare Centres in Pakistan. NIPS, Islamabad. 1986.

5. EXPERIMENTAL RESEARCH DESIGNS

Experimental research designs may be of three main types.

1. Pre-experimental designs
2. Experimental Designs
3. Quasi-experimental designs

5.1 *Pre-experimental designs*

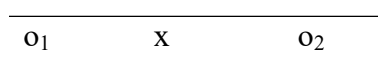
These designs can be used in different contexts in population education. Such designs provide descriptive information about the outcomes of the programme but do not enable the evaluator to firmly ascribe these to the programme. Some of the pre-experimental designs may be as under:

1. One-group post test design



The treatment, intervention or programme is given to a group. After a period of time an observation (O) is made. The change or effect is associated with the intervention or treatment (x).

2. One group pre-test-post-test design



There is an observation (O) in the beginning. Then the treatment, intervention or programme (x) is given to the group. After a period of time another observation (O) is made. The difference between (O₁) and (O₂) i.e. (d = O₂ – O₁) is noted and it is associated with the treatment (x). Thus a better association of cause and effect relationship is determined.

5.2 *Experimental Designs*

3. Post-test control group design.

(R)	Experimental group	R	X ₁	O ₁
(r)	Control group	R	X ₂	O ₂

Two groups - a control and an experimental group - are randomly (R)

made and two separate treatments X^1 and X^2 are given and then given the same post test after a given period of time. The observation of each group are noted as O_1 and O_2 . The significant difference between O_1 and O_2 ($d = O_2 - O_1$) is associated with the superiority of one treatment over the other.

4. Pre-test - Post-test control group design

(R)	Experimental group	O_1	x	O_2	O_1	x	O_2
(R)	Control group	O_3	x	O_4	O_3	x	O_4

This is an ideal experimental design, though not always feasible. In this design two separate treatments are given to both the groups. The difference between O_1 and O_2 (d_1), is associated with the change or effect in the case of randomly selected experimented group (i.e. $d_1 = O_2 - O_1$), whereas the difference between O_4 and O_3 (d_2) is associated with the effect in randomly selected control group (i.e. $d_2 = O_4 - O_3$). The real difference (D) is the difference between d_1 and d_2 which can be very clearly associated with the superiority of one treatment over the other.

5.3 Quasi-experimental designs

5. Time series design

One of the Quasi-experimental designs is the time series design as illustrated below

O O O X O O O

The group is compared to itself. The use of the design in this figure makes it possible to separate the reactive measurement effects from the effects of x.

We can go on proposing such other designs for the evaluation of populations-education programmes, but for the sake of understanding the concept of the experimental designing the above five designs are sufficient.

5.4 *Self Assessment Questions – II*

1.2 Name three types of experimental designs

a. _____

b. _____

c. _____

3. Propose an experimental research topic in the area of population education.

4. Propose the design diagram for the above mentioned experimental research.

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