INTRODUCTION

Man has been in existence for two million years, and despite the advances made in science to prolong his life, the question is being asked with increasing concern: Can man survive?

Those who doubt man's ability to survive base their apprehension on two principal factors. One is the invention of the nuclear warhead, which can devastate vast stretches of the earth in a single explosion. The other, not nearly as dramatic but perhaps more imminent, is the threat posed by the tremendous growth of the world population and the continuing depletion of the earth's resources.

(Arcega, 1977: 30)

The Population Problem of India

India, at present, is bearing the brunt of population explosion at the macro as well as the micro levels. In March, 1971 when the latest census of India was taken, the population of India was estimated 547 million. It is said that one out of every seven persons in the world is an Indian. Though India has only 2.4 per cent of the world's total land area, it has to support 14 per cent of the world's population. The annual birth rate in India is as high as 41 per thousand and annual death rate is 16 per thousand. About 13 million people are added every year which is equivalent to Australia's present population. The population in India is growing at a rate of 2.5 per cent.
per year and if it keeps on increasing at this rate it will surpass one billion mark by the end of the century.

If one looks at the history of population growth in India, the year 1921 would easily appear to be the year of "Great Divide". Before 1921, population had increased by only 13 million in 20 years. After 1921, it increased by 67 million in twenty years. During the span of three decades i.e. from 1941 to 1971 it increased by 228 million.

India was the first nation in the world to adopt measures such as family planning to control population as a policy of the government in the year 1952. The First Five Year Plan (1951-56) had some provision for giving advice in family planning in government hospitals and rural medical centres. Then the population was 361 million. It was multiplying at a rate of 1.33 per cent per year. During the second plan period (1956-1961) more vigorous programme in family planning was undertaken and facilities for voluntary sterilization were given. By 1961, population of India had risen to 442 million. In the third plan period (1961-1966) efforts were made to make family planning movement popular in every nook and corner of the country and co-operation of voluntary organisations was solicited. During the fourth plan period (1969-1974) the family planning programme was implemented with much fervour and zeal.
By 1971, India's population rose to 547 million. It was next to China, the most populous country of the world.

In 1972 Lok Sabha passed the Medical Termination of Pregnancy Act to legalise abortion. While only Rs. 15 lakhs had been spent on family planning activities in 1951, as much as 78 crores of rupees was spent on family planning in the year 1975-76.

The year 1974 was declared by the United Nations as the world population year. In this year it was estimated by demographers that India's population would double by 1988. So it was decided to reduce the birth rate from 41 per thousand to 25 per thousand.

During the nineteen months of emergency from June, 1975 to March, 1977 the family planning programme was put on a war footing. It is generally believed that one of the important factors in the defeat of the Congress Party in the General and State elections was the misguided zeal and ruthless coercion with which people were sterilised. So the very first step taken by the Janata Party Government after assuming power was to make family planning movement voluntary and soon the Ministry of Family Planning was renamed as the Ministry of Family Welfare.
On the eve of completion of one year of new government, Morarji Desai, the Prime Minister of India, said in a broadcast to the nation:

In no other field did the emergency do more harm to the nation than in family planning... We have to retrieve this position and make up for lost ground by persuasion and education as against ruthless compulsion. Our efforts are bearing fruit and in years to come we intend to intensively follow the family planning programme in all seriousness with the willing co-operation of the people for whom, in the long run, it would be a blessing.

(Desai, 1978: 2)

In India, low age of marriage contributes considerably to population growth. Therefore, from October 1, 1978 the Child Marriage Restraint (Amendment) Act came into effect. It fixed the minimum age at marriage 21 years for boys and 18 years for girls, which was previously 18 years for boys and 15 years for girls.

Thus, in the new and changed setting, the importance of tackling and solving the problem of population explosion on long term basis through education has become more relevant and pertinent than ever in India.

Need for Population Education

The population explosion in India has posed various problems of serious intensity. S. Chandrashekhar has
drawn a very grim picture of these problems in the following
words:

India's population is likely to increase to 1000 million by 1990.... An estimated 15-20
million people are unemployed in India and nearly 65 million children of school going
age are not in school. The per capita food consumption has not increased significantly
and there is a shortage of nearly one
million houses. It is estimated that for
every 13 million who are added to our
population each year, 127000 more schools,
373,000 more school teachers, 2,509,000
more houses, 4,000,000 more jobs, 19,000,000
meters more cloth and 1,250,000 quintals
more food will be required.

(S.Chandrashekhar, quoted by
Khushwant Singh, 1977 : 7)

Similar concern is reflected in a speech delivered
by Jay Prakash Narayan in New Delhi in 1967:

Planning in the face of such a terrific
rate of population growth is to build a
house on the ground which is being washed
away by the floods of time. I would say that
this is building on sand.... I would consider
this phenomenon of population explosion to
be even graver for us, for our nation for
the future of our nation, than a foreign
invasion because when there is foreign
invasion there is immediately a closing
of the ranks, immediately there is new
spirit in the country, enthusiasm and
determination to fight for the nation;
but this calamity, this disaster, though it
is galloping at a rapid rate, is completely
unnoticed.

( Jay Prakash Narayan, quoted by Ogale, 1969 : 42)
India has so far relied on the family planning programmes to tackle the problem of population explosion. Such programmes are directed towards couples in reproductive ages. Children are, of course, future parents. Their reproduction performance in future would depend to a great extent on their attitudes towards family size and their awareness of the population problem. Hence, the question of introducing population education at all the levels of our educational system is of utmost importance.

As a result of the commendable reduction in neonatal, infant and child mortality in recent years over 40 per cent of the population in many developing countries (in some over 45 per cent) is under 16 years of age. These young people will constitute the major portion of the adult population of the world in the next two crucial decades (i.e. 1980-2000) and their reproductive behaviour will be of prime importance to the efforts to control the rate of population growth. Yet in most countries this group has received little attention in population control programme. Now it is high time that the young people who are going to become the parents in the next generation, should be made aware of the magnitude of the population problem and educated to recognise the importance, need and necessity of a small family.
To-day in almost all the countries mass media are being widely used for the propaganda of family planning. Children are exposed to this and they learn about the population problem incidently. This can prove harmful as little knowledge is often dangerous. Hence, it is necessary to provide them systematic and scientific information through a well-planned programme of population education.

Education is considered to be an effective and reliable instrument of social change. If we want to change and shape attitudes and values of our people in favour of small families, the remedy lies not in compulsion but education. Population education is, therefore, necessary for the inculcation of effective citizenship and responsible parenthood in our future citizens.

Evolution of the Concept of Population Education

The concept of population education is of recent origin, having been first mooted in 1960's. In the words of Wadia:

So far it is still, for the most part, a collection of concepts and generalisations which are in the process of being given a definition, a shape, a content, a structure, and a validity for being brought within the purview of formal teaching.

(Wadia, 1971: 145)
In the chronology of population activities, it will be noted that family planning and other non-education programmes and family life education programmes were in existence before population education was articulated as a need. The population education idea emerged largely as a reaction to the earlier programmes as it emphasized a strategy which recognised rationality in the individual to make decisions and choose appropriate courses of action in favour of small family.

It is interesting to note that the first call for population education was the result of a very different situation, than the one prevailing to-day. In 1943, two American demographers Frank Lorimer and Frederick Osborn urged the inclusion of materials on population in the curricula of American schools. But this they did because they were afraid of the problem of population decline. They said:

"It is also becoming clear that America and in fact, all nations with advanced economy and culture must take account of a trend toward population decrease......and the decrease may become more precipitous as time goes on."

( Lorimer and Osborn, 1943 : 8 )

In 1962, Philip Hauser, another American demographer, called the attention of the educators to the population gap in the curriculum. He observed that:

"It is about time for twentieth century school curricula to incorporate twentieth century demographic findings in the context of their"
twentieth century implications.

( Hauser, quoted by Wadia, 1971 : 145 )

A couple of years later, Sloan Wayland of Teachers' College, Columbia University provided a lead in the subject. He introduced the term population education in our country which he visited in 1968. Similarly Stephen Viederman, Assistant Director, Demographic Division of the Population Council, New York emphasised the need for population education for an enhanced quality of life for all in 1972.

The observance of the World Population Year and the holding of the United Nations World Population Conference at Bucharest in August, 1974 have gone a considerable way in giving some shape and form to population education and focussing the attention of the whole world on the importance of population education. It adopted a World Population Plan of Action.

In this way the concept of Population Education has evolved and it is growing in a world-wide movement from strength to strength at the initiative and co-operation of various national and international, governmental and voluntary agencies.

Meaning, Scope and Definition of Population Education

In a new field, definitions are useful, among other purposes, in order to highlight its meaning, characteristics
Population education aims at making the student aware of the grave consequences of the rapid and unchecked population growth at the macro and the micro levels. It is mainly concerned with the development of positive attitudes for planned and responsible parenthood. Population education is, thus, an attempt for the social change and national reconstruction. It is neither the sex education nor the family planning education. Population education, therefore, may rightly be called a response of the educationists to the population problem in all its aspects.

Viederman states:

Population education may be defined as an educational process which assists the individual:

(1) to learn the probable cause and consequences of population phenomena for himself and his communities (including the world);

(2) to define for himself and his communities the nature of the problems associated with population processes and characteristics; and

(3) to assess the possible effective means by which the society as a whole and he as an individual can respond to and influence these processes in order to enhance the quality of life now and in the future.

( Viederman, 1974 : 6-7 )
V. K. R. V. Rao states:

Population education, therefore, is essentially related to human resource development. Thus population education is not only concerned with population awareness but also with developing values and attitudes so that both quality and quantity are taken care of.


K. S. Rao considers population education as a part of the process in which individual decision-making helps in the betterment of society:

Population education can be defined as education aimed at providing population awareness in the broad perspective of building a social order of equality and economic justice leading to a welfare state, through the process of internalization of attitudes emphasizing the belief that man can control and determine the course of action of himself, of his family and of his country.

(K.S. Rao, quoted by D. Gopal Rao, 1974: 34)

Burleson prefers to call it education for population awareness when he says:

Education can become an agent of change, by developing population awareness among teachers and students.

(Burleson, quoted by Wadia, 1971: 145)

D. Gopal Rao defines population education more comprehensively when he states:
Population education may be defined as an educational programme which provides for a study of the population phenomenon so as to enable the students to take rational decisions towards problems arising out of rapid population growth.

(D. Gopal Rao, 1974 : 35)

A succinct definition formulated at the UNESCO Regional Workshop on Population and Family Education reads:

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 the situation.

(Alberto R.P. and Ladesma M.J., 1977 : 26)

Thus, the above definitions throw light on different aspects of population and thereby give us a clear idea about the meaning and scope of population education.

Population education is neither family life education nor sex education or education of the techniques of family planning. It helps learner to understand how the population phenomenon affects the society and the individual. In this way population education enables the learners to make personally and socially responsible population related decisions. It is an educational process designed to affect awareness, attitudes, decisions and behaviour of an individual towards the population related matters.
Objectives of Population Education

After looking at the meaning, scope and definitions of population education the formulation of objectives of population education becomes imminent. D. Gopal Rao has given objectives of population education after analysing those formulated by different authors and also taking into account the educational needs of the country. They are:

1. To develop an understanding of some basic demographic concepts and processes.

2. To develop an understanding of the crisis of over population as an outcome of the falling death rates and an appreciation that the advances in science and medicine have achieved great control on death.

3. To develop an understanding of the influence of population characteristics on the various aspects of human life - social, economic, cultural and political.

4. To develop an appreciation of the relationship between the standard of living of a family and its size in terms of the attainment of a high level of health, education, housing, diet and other amenities of life.

5. To develop an understanding of the biological factors and phenomenon of reproduction which are responsible for the continuation of the species.

6. To develop an understanding of the fact that there are ways to plan parenthood, to regulate family size and consequently check population growth.
7. To develop an appreciation of the small family size as a proper and desirable norm.

8. To develop an awareness of population policies and programmes of the country.

(D. Gopal Rao, 1976)

Review of the Population Education Activities

The investigator made a detailed study of the literature on population education mostly in the form of the reports of the seminars, conferences, committees, workshops etc. and also various books to have an overall review of the population education activities in India and other countries. They are presented hereunder:

In other countries:

Governments of many countries of the east as well as the west in collaboration with voluntary organisations and international agencies have been sponsoring programmes in population education for various target groups. In Chile a special committee of the Ministry of Education has been working in this area. In Columbia an experimental programme in population education has been carried out for selected teachers and students. The department of education in Hongkong is working in collaboration with other agencies for preparing instructional material for schools. Indonesia has already launched programmes in population education in schools.
and efforts for developing integrated curricula, teachers' guides and teaching material are in progress. Similar activities and programmes are accepted and being implemented in the United Arab Republic, Korea, Thailand, Malaysia, the Philippines and Pakistan. In Tunisia, the development of a model programme in population education has already been undertaken. The Ministry of Education in Turkey has asked the teachers to render assistance to the population planning programme in and out of school.

In the United States of America, The American Sociological Association is developing several units of study in the area of population education for introduction in secondary schools. The Population Reference Bureau is developing several documents in population studies. The Population Council has been supporting the population education movement quite steadily. Many of the American universities such as the University of Michigan, University of North Carolina, Harvard University, Columbia University and University of Oregon have started specialised courses in this area. Several schools in the United States have developed and introduced special units of study dealing with population problems.

Among the international agencies working in the area of population education, UNESCO is the most active one. It has undertaken many projects in population education in
schools, mass communication, adult education and out of school education. It has sponsored many seminars, conferences and workshops. The UNESCO staff members have already been on missions to various countries for helping, guiding and assisting programmes in population education. The UNESCO organized the World Population Conference in Rome in 1954, which like that in Belgrade in 1965, had an educational character. In 1970, it authorised the Director General to assist member states on request in the elaboration of population and family planning activities. The World Population Conference held in Bucharest, Romania from 19th August to 30th August 1974 successfully focussed the attention of the world community on the need and importance of population education.

The other important agencies working in the area of population education are the International Planned Parenthood and its affiliates, bilateral government aid programmes such as SIDA and USAID and other specialised agencies of the United Nations such as the United Nations Fund for Population Activities, FAO, WHO, UNICEF and the Population Division of U.N., the Ford Foundation, World Education, the Pathfinder Fund, the Columbo Plan Bureau, and the East-West Communication Institute.

In India:

Population education movement in India is hardly two decades old. It started with the efforts to include the
content relating to family life education in the Health education curriculum for various stages of education. In 1957, the Ministry of Education appointed Health Education-Nutrition Education Committee. This committee, set up a sub-committee for the preparation of syllabi in Health Education wherein the concepts regarding population education were included. In 1966, the Ministry of Health and Family Planning thought of involving university and college teachers in the family planning programme. On the recommendations of the Ministry of Education, the University Grants Commission set up a committee which gave its report in 1967 and made some important recommendations and the Central Health Education Bureau was assigned the task of taking action on this score.

In 1968, Sloan R. Wayland of Teachers College, Columbia University, U.S.A., an expert and a pioneer in population education activities visited India. He had discussions with the key officials in the Departments of Family Planning and Health as well as Ministry of Education for developing a programme of population education through the educational system of India. Accordingly, some provision was made in the Fourth Five Year Plan for the training of personnel, and production of materials. In February-March, 1969, the U.N. Mission on Family Planning visited India. C.E. Gurr, one of the members, was mainly concerned with the population education programme. The U.N. Mission strongly recommended the development of a programme on population education at all stages of education in the country.
In 1969, the Family Planning Association of India conducted a two day seminar on Population Education for the younger generation at Bombay in 1969. It helped in the development of a programme of population education to be implemented in some selected schools of Bombay. In the same year one day panel discussion on population education was organised by the Institute for Social and Psychological Research at Bangalore.

Thus, though some sporadic efforts were made by the governmental and voluntary organisations with regard to population education prior to 1968-69, the National Seminar on Population Education held at Bombay in 1969 was an important landmark. It was organised by the Ministries of Education and Health and Family Planning. This seminar paved way for some important policy decisions with regard to population education. One of its major recommendations was the establishment of a Population Education Cell in the NCERT. Accordingly, the Population Education Cell was created in May, 1970. It has started developing a comprehensive programme of population education at the school and the teacher education levels. It also organises workshops, seminars etc. At one such workshop organised jointly by the NCERT and the Government, Central Pedagogical Institute, Allahabad from 25th to 29th September, 1973, the strategy of population education for teachers was discussed and a draft syllabus for secondary teachers training colleges was
finalised. Such workshops helped in clarifying various aspects and dimensions of the concept of population education. The Population Education Cell has also prepared and published suitable instructional materials both for teachers and pupils on population education. It has also started work to implement population education programme in collaboration with the Department of Education and State Institutes of Education of different states.

The National Seminar on Population Education held in Bombay on August 2-3, 1969 was followed by the National Conference on Population Education held in New Delhi from October 21 to 23, 1971. This conference provided a forum for taking administrative and academic decisions pertaining to the implementation of population education programme in schools and preparing an action plan for the same.

At the university level some commendable work in population education programmes and researches have been started at the Population Education Centre, M. S. University of Baroda, Baroda and Population Studies Centre, Sri Venkateswara University, Tirupati. The Gujarat University has also included population education as one of the eight special fields in the revised syllabus for B. Ed. degree which has come into effect from June, 1978.
Thus, the review of the population education activities in India and in other countries clearly show that population education is becoming a very popular and acceptable programme all throughout the world. Various governmental, non-governmental, semi-governmental, national and international and voluntary organisations have been playing important role in this area. Pioneers and resource persons such as Sloan Wugland, Stephen Wiederman, David Kline, Thomas Poffenberger, Donald Chauls have been very active in the effort to develop population education as a concept and in terms of programmes.

An Outline of the Work

While initiating the project, the investigator selected a target group of secondary teachers under training. The terms were defined, the hypotheses were formed and the objectives were spelt out.

In order to provide a theoretical rationale, a model for the process of developing the curriculum was framed consisting of six phases.

During the first phase, diagnosis of 200 trainees included in the sample of the tryout of the curriculum was carried out. The investigator formulated general and specific objectives during the second phase. The selection of the content and the learning experiences formed the work of the third and the fourth phases. During the fifth phase, the
process of organizing the content and the learning experiences was undertaken and ten teaching learning units were formulated and tried out.

The research design followed was single group pre test post test design: \( T_1 \times T_2 \). Before the tryout, the investigator administered an attitude scale and an achievement test specially constructed by him. The tryout consisted of the teaching-learning as well as the co-curricular activities. After the tryout the same tests were again administered.

The last phase of the programme of evaluation consisted of two aspects - measurement and assessment. In the first aspect the statistical analysis of the change in the attitude and knowledge-understanding of the student teachers was done by comparing pre-test post-test results. In the second aspect the assessment of the curriculum was made by the student-teachers and the teacher-investigator. On the basis of the findings of evaluation, certain modifications were made and the curriculum was given the final shape in the form of a curriculum package.

Thus, a curriculum in population education for secondary teachers under training was developed.