

Population Education

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INTRODUCTION

In developing countries, concerns regarding rapid population growth have been very acute. The family planning programmes are not getting as much success as needed and planned. It is experienced by family planning workers that their efforts are wasted on the audience, which nourishes the traditional values and outlooks. Reaching the future parents at younger ages and imbibing in them the proper values and attitudes is thought to be an important approach to bring down the rate of population growth. As such, the young generation is considered to be the most appropriate target. The schools with captive young audience are the most obvious places to start population education (UNESCO, 1978).

National Seminar on Population Education

The National Population Education Project (NPEP) in India, though formally launched in 1981, had its beginning way back in 1969, when the idea of population education and its need was crystallised during the National Seminar on Population Education held in Mumbai in August, 1969 (NCERT, 1970). The seminar made significant recommendations for the evolution of NPEP such as:

A separate population education cell should be established in the National Council of Educational Research and Training (NCERT) Delhi, (a) to develop suitable curricula on population education at the school level and (b) to prepare books, supplementary reading materials, audio-visual aids, teachers'

guides etc. needed for a successful implementation of the programme.

At the national level, the Population Education Unit (PEU) of NCERT was entrusted with the overall responsibility of implementing Population Education Programme. At the state level suitable machinery for implementing Population Education Programme, was established in the Department of Education in the State Institute of Education or State Council of Educational Research and Training (SCERT).

Following the above recommendations of the seminar, a Population Education Unit (PEU) was set up in NCERT in May 1970. The PEU developed a comprehensive programme of Population Education at the school and teacher education levels.

Population Education Projects in India

Four population education projects are currently running in this country.

1. The National Population Education Project (NPEP) was launched in April 1980, as a three-year programme for introduction of population education in formal education system. In 1980, the UNFPA began to support NPEP in four Southern States. The NPEP in schools started initially in 10 states/union territories (UT) in 1980. Since then four phases (1980-1985, 1986-1992, 1993-1996 and 1997-2001) of the Project have been completed. The NPEP in schools is implemented by NCERT.

2. The Population Education Project in Adult Literacy and Continuing Education was launched in 1986 with financial aid from the UNFPA. It is being executed by the Directorate of Adult Education (DAE) and is implemented through the state and regional resource centres, which provide technical and academic support to literacy programmes in the states. The project has completed two phases (1986-1993, 1994-1998) and is in the third phase (1998-2002).
3. The Population Education Project in Higher Education is being implemented since 1986 with financial assistance from UNFPA. The project completed two phases, and the third phase began in the first half of 1999. During its second phase, Population Education Research Centres (PERCs) were covering 186 universities and 1400 colleges spread over 32 states and UTs.
4. Population Education Project in Vocational Training was started in 1988, by the Ministry of Labour in vocational training institutes – mostly Industrial Training Institutes. The project is in the second phase and aims at covering 1500 Industrial Training Institutes.

Legitimacy of Population Education Project

In India, the demand to introduce population education in the school system has mostly come from specialists in the problem areas of rapidly growing population – the demographers and activists (family planning workers) and not from the educators or pedagogues (Wadia, 1974, UNESCO, 1978). However, the National Population Policy statement issued in 1976 by Ministry of Health and Family Welfare, Government of India, clearly emphasised the importance of "Introduction of Population Values in the Educational System" (Karan Singh, 1976). The National Policy on Education, 1986 provided the much needed legitimacy to population education programmes by incorporating such core items as observance of small family norm, equality of sexes, protection of environment, removal of social barriers and inculcation of scientific temper (Ministry of Human Resource Development, Government of India, 1986).

Evolution of the Concept of Population Education

In its short history of 20 years, the concept of population education has undergone changes quite frequently. This is mainly because of the changes in the perception of population phenomenon and its relationship with development (Pandey, Jawaharlal, 2000). In India when the necessity of incorporating population education was being advocated in late sixties and seventies, it was the concern regarding rapid population growth in the country, which drove the demographers and family planning workers to demand introduction of population education in the school system. As such in early stages the concept of population education was dominated by demography. The population education syllabus contained, population dynamics, population growth and economic development, population growth and social development, health and nutrition, biological factors and family life, and ecological considerations and population (Pandey Jawaharlal, 2000). However, soon the gaps in the demography dominated conceptual framework of population education became apparent and the need for redefining of the conceptual framework of population education became evident.

The first step in reconceptualising population education was taken at the UNESCO Regional Seminar held in 1984, in which five major themes were identified as core components of the conceptual framework. Those were: family size and family welfare, delayed marriage, responsible parenthood, population change and resource development, and population related beliefs and values. While revising the conceptual framework of population education in India one more dimension, "Status of Women" was added.

Redefining the Concept

The conceptual framework of population education was redefined in view of the recommendations of International Conference on Population and Development (ICPD), developments in 1994 and the feedback received from the previous phases of implementation of the NPEP.

After the ICPD, the emphasis of India's Family Welfare Programme shifted from a demographic goal of reducing population growth rate to one, which emphasises the reproductive rights and addresses the reproductive health needs of the people. It was recognised that the improvement of reproductive health (including family planning) is an essential element of human welfare and development. For implementing this "paradigm shift", it was necessary to design a package of good quality services in order to address the reproductive needs of the people (Pachauri, 1995). Hence a package of essential reproductive and child health services (RCH) was prepared which had the following components:

- Prevention and management of unwanted pregnancies
- Services to promote safe motherhood
- Services to promote child survival
- Nutritional services for vulnerable groups
- Prevention and treatment of reproductive tract infections and sexually transmitted infections
- Reproductive health services for adolescents
- Health, sexuality and gender information, education and counselling, and
- Establishment of effective referral services.

Major emphases of the RCH approach, according to the Population Council, 1996 are:

- Gender sensitivity
- Informed choice and safety
- A comprehensive view of sexuality
- Community mobilisation
- Multisectoral efforts, and
- Quality of care.

With the shift in the goals and implementation of the Family Welfare Programme of the country, it was but natural that concomitant changes take place in the conceptual framework of population education programme. Present reconceptualised population education programme, reflects a major change in strategy from "population control" to "sustainable development" and it follows closely the ICPD Program of Action, 1994 (Ahmed, J. S., et al., 2000). The redefined

programme is now renamed as **Population and Development Education Project (PDE)**.#

The reconceptualised Framework has following six basic themes focusing on the critical population and development issues:

- 1) Population and sustainable development
- 2) Gender equality and equity for empowerment of women
- 3) Adolescent reproductive health (adolescence education)
- 4) Family: socio-cultural factors and quality of life
- 5) Health and education – key determinants of population change
- 6) Population distribution, urbanisation and migration.

The most important objective of NPEP has been institutionalisation of population education in the content and process of the education system.

When the reconceptualised population education is institutionalised in the education system of the country, it will indicate that the population education programme is fully accepted as legitimate permanent component of education system. Three goals are crucial for institutionalisation:

Reconceptualised population contents must be included in (a) the textbooks and other basic materials; (b) the examination system; and (c) the pre-service and in-service training of teachers (Sikes, O. J., 1993).

This new educational intervention has been introduced as a separate subject area in some countries. However, in India the strategy of integrating population education elements into on-going subject areas of school curriculum was adopted. Although this strategy of integration of population contents in the syllabi and textbooks of different subjects has been regarded as successful, the evaluation studies have brought out some limitations of this approach. There are a number of critical contents of population education which do not find place in the school syllabi and textbooks (NCERT, 1999). The new elements of reconceptualised population education are not included in the existing school curriculum. The whole range of

In this Report the terms Population Education and Population and Development Education are used interchangeably.

contents related to adolescent reproductive health – conceptualised as adolescence education – are absent in the syllabi and text books of school education (Srivastava, A.B.L. et al., 1999). Even the contents that are included do not serve the objective of population education.

The reasons for the ineffective integration of population education with the process of school education are: the reluctance on the part of textbook writers to discuss the subject thread bare; the old traditional strategy of curriculum transaction in classroom and inability of the teaching-learning process of the subject textbooks to promote participatory and interactive methods (Pandey, Jawaharlal, 2000).

It is being felt that the school curriculum should be reorganised in such a way so as to provide an independent place to important educational areas like population education, adolescence education, environmental education, health education and education on human rights (Pandey, Jawaharlal, 2000).

RESEARCH IN POPULATION EDUCATION

The objectives of research in PDE are :

- assessing needs of specific groups such as adolescents, parents, teachers, and administrators for planning need-based, relevant interventions.
- establishing factual basis for (a) understanding interrelationships between population and socio-economic and environmental factors, (b) ensuring better implementation, monitoring and evaluation.
- assessing the quality of input and impact of interventions (Ahmed, J.S. et.al. 2000 and UNFPA, 1999).

Status of Research in Population Education

The first attempt to take stock of research in the areas of population education in India was made in 1981, when NCERT brought out a review report "A Decade of Population Education Research in India" (NCERT, 1981). This review covered 49 studies. Of these studies, 19 were carried out by students in partial fulfillment of the Master's degree requirement. There was a heavy concentration on exploratory studies involving knowledge, attitude and perceptions regarding population education of students, parents and teachers. Studies showed that curriculum and materials were developed without assessing the needs of adolescents and their readiness to receive certain population messages. There were no studies related to the teaching-learning process involved in population education, nor on the training needs of personnel in the field of population education (UNFPA, 1999).

The second review, taking stock of research studies on various population education areas during 1981-90, was carried out by the NCERT in 1993. A total of 86 studies were identified and were classified according to the classification suggested by UNESCO. Table 1 presents the distribution of research studies according to the type of study.

The trend analysis indicates that the interest of population education cell in research studies had not changed over a period. Universities had not contributed much while other institutions such as the International Institute for Population Sciences, Mumbai had carried out the maximum number of studies, mostly basic research in which the range of topics was wide (UNFPA, 1999).

Table 1: Distribution of research studies by type of study, 1981-1990

	Type	Number	Percent
1.	Basic Research Studies (BR)	40	46.5
2.	Studies on Knowledge, Attitude and Practice (KAP)	21	24.4
3.	Studies on Curriculum Development and Instructional Materials (CM)	7	8.1
4.	Studies on Teaching Methodologies (TM)	3	3.5
5.	Studies on Programme Impact Evaluation (IE)	15	17.5
	Total	86	100.0

Present Review

Present review of research in the field of population and development education covers the period from 1993-2000. In all 250 studies have been identified and presented in Table 2. In addition, there are 10 Ph.D. level studies in Population Education during 1993-2000.

Two important aspects stand out in Table 2. One is an over representation of researches on "drug abuse". This is because of the availability of Annotated Bibliography on Drug Abuse among Adolescents during 1990-2000. Another is the absence of studies on "Ageing". There are 16,200 studies on ageing in India according to Google search. However only a few could be identified as researches on ageing by population educationists.

Comparison of Table 1 and Table 2, indicates that while there is a good deal of difference in the types of topics covered in the researches, there is about three fold increase in the number of research studies – from 86 to 250.

During 1981-90, basic research studies such as researches on values, fertility, socialisation, learning processes etc. related to population, accounted for 47 per cent of all researches. There is hardly any basic type of study in the researches carried out during 1993-2000. This is understandable that advancement in the discipline reduces the need for basic researches. As stated in the Introduction, the concept of population education has undergone changes and present reconceptualised population and development education

emphasises the reproductive rights and addresses reproductive health. The emerging concerns in population and development education are:

- Adolescence/Sex education
- Drug abuse
- AIDS education, and
- Ageing (Society for Applied Research in Education and Development, 1995).

Out of the four emerging concerns, the first three figure quite prominently in the researches.

In the following parts an attempt is made to summarise important researches falling under various topics. Of the main topics, there are sub topics, for example, in the study on drug abuse, there are categories such as prevalence of drug abuse among medical students, other students, child labourers and non-adolescent youth; types of drugs used, effects of drug use. Present write-up deals with the topics covering sub topics or categories.

KAP STUDIES

KAP studies generally refer to Knowledge, Attitude and Practice regarding family planning. At the initial stage of the introduction of family planning programme, a disproportionately large number of KAP studies flooded the research area. Now KAP, in addition to the knowledge attitude and practice regarding family planning, also refers to population education, gender equality, environment, HIV/AIDS. The KAP studies on HIV/AIDS, are included in section

Table 2: Distribution of research studies by type of study, 1993-2000

	Type	Number	Per cent
1.	KAP Studies	26	10.4
2.	Adolescence Education	39	15.6
3.	Gender Sensitivity	6	2.4
4.	HIV / AIDS	33	13.2
5.	Drug Abuse	100	40.0
6.	Adoption of Villages	4	1.6
7.	Cost-effectiveness of Training Strategies	3	1.2
8.	Content Analysis	3	1.2
9.	Impact Studies	24	9.6
10.	Evaluation	6	2.4
11.	Miscellaneous	6	2.4
	Total	250	100.0

on HIV/AIDS. Studies on knowledge and attitude towards human sexuality and sex education and gender equality are included in the section on Adolescence Education.

In all 26 studies on KAP have been identified and classified broadly into Awareness / Opinion Studies; Attitude Studies; and Studies on Environmental Issues.

Awareness/Opinion Studies

A large majority of studies deal with knowledge/ awareness regarding various population related issues of teachers and students of schools and learners in adult and continuing education classes; and others such as mothers and daughter, demographers and urban, rural and tribal population.

Important findings emerging from a study conducted in Bundelkhand Region of Madhya Pradesh (2001) are :

1. Teachers and students are aware of populations and related problems. They are also aware of the need of controlling population growth and the spread, propagation and promotion of population education.
2. The teachers and students possess correct knowledge about population of India and about population problems in India.
3. Majority of teachers wish to arrange population education programme at different school stages through school curriculum.
4. Teachers in large number have shown favourable attitude towards the responsibility to teach population education.
5. Teachers and students both have accepted small family norm from social religious and economic point of views.
6. The students are generally aware of the need for delayed marriages and family size and family welfare.

The Population Education Resource Centre, University of Kerala, Trivendrum (Pillai S.K., et al., 1995) carried out a study on 630 degree students of Kerala, mainly to assess the awareness of students in the thrust areas of population scenario, population related issues, AIDS and sexually transmitted diseases, status of women and drug abuse.

The study revealed following important findings:

1. The degree level students in Kerala had a higher level of knowledge on population related issues. However, their knowledge on population scenario and allied areas was limited.
2. Female degree students had an above average awareness about population and related issues.
3. Degree students coming from small families had the highest level of knowledge on population education compared to their counterparts.
4. Religion does not play significant role in forming the attitudes.
5. Degree students from rural areas had reasonably high level of awareness regarding population related issues.
6. The degree students irrespective of their religion, class, family size, supported the idea of free distribution of condoms in educational institutions

In another study conducted on women teachers in Orissa it was revealed that majority of the women students were in favour of introduction of population education in schools. According to more than two-thirds of the women students population education means the study of population dynamics, family life education, environmental education, sex education, family planning education and the study of relationship between population and quality of life. According to the women students the coverage of population education in the total curriculum and in co-curricular activities for various levels of education should be as follows:

<i>Educational level</i>	<i>Curriculum subjects</i>	<i>Co-curricular activities</i>
Primary level	5 per cent	10 per cent
Higher primary level	10 per cent	15 per cent
Lower secondary level	10 per cent	20 per cent

Attitude Studies

In general students from favourable family environment had favourable attitude towards population education. Late marriages of girls were also favoured. Three year interval between two births was also suggested.

Environmental Issues

There are three studies that deal with environmental issues. One study attempts to study the environmental awareness and its enhancement in the secondary school teachers (Patel, D.G. and Patel, N.A., 1995). Another study on environmental awareness pertains to primary grade girl students and their parents (Bhattacharya, G.C., 1996). The study conducted by Biswal, S.K.(1999) on secondary school students of Orissa shows that the population, environment and resource awareness was higher in female students than in the male students. The students from other backward classes had maximum score on population awareness, whilst the students from general caste excelled all others in environment and resource awareness. Those from large family had an edge over others in resource awareness. The rural and urban students did not differ much in environmental and resource awareness. There was no appreciable difference in the awareness level of control group of students as revealed by pre and post test results. With reference to achievement in environment issues, rural students excelled all. The awareness of science teachers with respect to population, environment and resources was 69 percent among rural teachers, 80 percent among semi-urban teachers and 86 percent among teachers working in urban areas.

ADOLESCENCE EDUCATION

Adolescence

Adolescence is the distinctive stage in transition from childhood to adulthood. The chronological age range of 10 to 19 years has been generally accepted as a rough indicator of that period. Adolescence is commonly associated with physiological changes occurring with the progression from appearance of secondary sexual characteristics (puberty) to sexual and reproductive maturity (WHO, 1995).

The group of adolescents was a neglected group till recently. In some developing countries the state of adolescence has been non-existent. For example, in India, more specially in rural areas, there is no adolescence period for girls as they shift quickly from childhood to married

women to motherhood. (Goswami, P. K., 1995). Various needs of the adolescents in India are poorly understood and hence not attended. The adolescents form an important group in India's population for several reasons. Adolescents constitute numerically an important segment of the population (a little more than one-fifth of the total population). The health and well being of the future generations depend on the health and well-being of adolescents. The health and well-being of adults depends upon their own health status in the adolescence period, as behavioural patterns acquired during this period tend to last throughout adult life. Although adolescence is regarded as a period relatively free from health problems, (lowest mortality rates, Shirur, Rajani, 1999) developmentally, it is a critical period in which malnutrition and diseases can cause considerable short and long term damage. Adolescent boys have special health-related vulnerabilities. They are at high risk for suicides, road accidents, drug addiction and sexual and reproductive ill health.

Adolescent girls are also at high risk for reproductive health problems and their adverse consequences as they are vulnerable to sexual assaults, rape and prostitution, too early pregnancy and child bearing, infertility, anaemia, malnutrition, unsafe abortion and reproductive track infections (RTIs) including sexually transmitted diseases (STDs) and HIV/AIDS (WHO, 1998). An ever-growing body of data has revealed that early sexual initiation can lead to tragic social, economic and health consequences.

Every year a large number of young people contract STD. It has been well established that besides a host of debilitating reproductive health consequences of STDs, the presence of STD can increase the likelihood of HIV transmission (Gangakhedkar, R.R. 1997). Recent data indicate that in many developing countries upto 60 percent of all new HIV infections are among 15-24 years old persons with females outnumbering males by a ratio of two to one (WHO, 1995). Sentinel surveillance has revealed that there is a rapid rise of HIV positive cases among pregnant women. As can be seen from Table 3 that HIV positive cases are growing more rapidly in the younger age group of those below age 20.

Table 3: Sentinel Surveillance ANC cases in Maharashtra

Year	Percentage HIV positive by age	
	< 20 years	> 20 years
1994	2.33	2.27
1995	3.52	2.38
1996	5.26	4.25

Source: Salunke, S.L., 1997 "HIV infection and syndromic approach in AIDS control, Maharashtra", Paper presented at workshop on Reproductive and Child Health and Family Planning Policy Issues in Maharashtra, May 13-15, 1997 Pune.

The AIDS pandemic has made health educators and programme planners realise that if the spread of AIDS is to be checked, education on sexuality is necessary and a beginning should be made with adolescents. It was thought that the health needs, more specially reproductive health needs, of adolescents can no longer be neglected.

Adolescence Education

Under the expanded scope of the National Population Education Project, (NPEP) the thrust in the third cycle (1993-96) of the Project was on coverage of certain emerging concerns such as Adolescence/Sex Education, Drug Abuse, AIDS Education and Ageing. (Society for Applied Research in Education and Development, 1995). Prior to that adolescence education did not form a part of the curriculum of population education. Although the educators had realised the needs and concerns of the adolescents related to the process of their growing up from childhood to adulthood, their needs were not addressed to in the school curriculum.

The National Seminar on Adolescence Education organised by National Council of Educational Research and Training (NCERT), New Delhi in April 1993, for the first time recommended the introduction of Adolescence Education in the school education. As a follow-up of the recommendations of the seminar, efforts to integrate the elements of adolescence education in the contents and process of school education were started by the NCERT. The end result of the efforts was the development and publication of Adolescence Education in Schools: A Package of Basic Materials in 1999.

The package contains five parts and a small booklet on introduction (NCERT, 1999). Part-II of the package which is entitled as knowledge base of Adolescence Education covers following important topics related to adolescents and provides adequate knowledge base for each:

1. Process of growing up
2. Physical growth and development
3. Socio-cultural development and adolescence
4. Gender roles
5. HIV/AIDS: Basic information
6. HIV/AIDS: Prevention and control
7. Sexually transmitted diseases, and
8. Drug abuse: Concepts and concerns

After the International Conference of Population and Development (ICPD), in 1994, it was realized that population issues need to be holistically approached for maximum impact. (Sharma, R.C., 2000). As such adolescence education and life skill education have become an integral parts of population education programmes in India.

Objectives of Adolescence Education

Adolescence education is an educational intervention. It is an education about adolescence, which is a period of growing up from childhood to adulthood (Pandey, Jawaharlal, et al., 1999). Adolescence education aims at:

1. Providing authentic and accurate information about physical, physiological, socio-cultural and interpersonal issues of reproductive health to students in order to develop in them proper understanding of the process of growing up.
2. Inculcating among them a healthy attitude towards sex, respect for the opposite sex and responsible sexual behaviour.
3. Helping them understand the implications of AIDS and causes and consequences of HIV infection as well as the ways and means to prevent it, and
4. Making adolescents aware of the factors leading to drug abuse, its consequences and ways and means of preventing drug abuse and developing in them rational attitudes as well as the skills to say "No" to drugs (Pandey, Jawaharlal, et al., 1999).

During the last phase (1998-2000) of the NPEP, the two major thrusts were:

1. Integration of the elements of post ICPD reconceptualised population education, and
2. Introduction of the elements of adolescent reproductive health conceptualised as Adolescence Education (Sharma, R.C., 2000).

Research in Adolescence Education

The topic of Adolescence Education was introduced in the school curriculum in the second half of the 1990s. The 39 research studies on this topic are, therefore, concentrated on the later half of 1990s (1995-2000). These studies are broadly classified into Profiles of Adolescents in India; Adolescent Nuptiality, Fertility and Contraception; Adolescent Sexual Behaviour; KAP of Adolescents Regarding Various Reproductive Health Issues and Needs and Problems of Adolescents; Evaluation of Adolescence Education Activities, Attitude of Teachers, Parents and Community towards Introduction of Adolescence Education in School Curriculum; Development of Life Skills Intervention Course for Adolescent Girls; and Peer Group.

Profiles of Adolescents in India

The Report of the National Family Health Survey 1998-99 (NFHS-2) provides useful information for constructing demographic, social and economic profile of adolescents for rural and urban areas of each state.

According to the findings of the National Family Health Survey, 1998-99 (NFHS-2) adolescents (age group 10 to 19 years) accounted for 22 percent of the total population of India. If it is assumed that in 2001, the percentage of adolescents in the total population of India was the same as observed in the NFHS-2, it could be stated that there were around 229 million adolescents in India in 2001, with 118 million males and 111 million females giving the sex ratio of 941 females per 1000 males. The situation of adolescents varies widely by gender. Adolescent literacy rates are higher for adolescent boys, so also is their educational attainment, and school attendance. As expected,

work force participation rate is higher for adolescent boys. However the age-specific mortality rate for the age group 15-19 is higher for adolescent girls. This is mostly due to early marriages and early child bearing.

There is a wide variation in the situation of adolescents by states and regions. For example, as indicated by NFHS-2, the proportion of adolescents in Uttar Pradesh was 24 percent in 1998-99 and that in Kerala it was 21 percent. (NFHS-2 Uttar Pradesh 2001 and Kerala 2001). There was no difference in the literacy rates of adolescent boys and girls in Kerala and the literacy rates of adolescent boys and girls differed widely in Uttar Pradesh.

Adolescent Nuptiality, Fertility and Contraception

In India marriage is almost universal and sexual activity among a majority of women commences at an early age. The sexual activity is initiated within marriage and this practice is consistent with strong emphasis placed on female virginity, purity and chastity. In India, according to the findings of the NFHS-2 1998-99, majority of women age 20-49 were married before they reached legal minimum age at marriage of 18 years, as set by the Child Marriage Restraint Act of 1978. The median age at first marriage of women age 20-49 in rural India is only 16 years, well below the legal minimum. For urban areas in India, the median age at marriage for women age 20-49 years is 18.7 years. There are considerable differences across states in the age at first marriage of women (IIPS, 2000). Majority of women had started living with their husbands before attaining full maturity.

The married adolescent girls face social and family pressure to begin child bearing as soon as possible after marriage. As such fertility rate in adolescent period is very high. As indicated by the findings of NFHS-2, 1998-99, fertility at age 15-19, accounts for 15 percent of total fertility in urban areas, 20 percent in rural areas and 19 percent overall (IIPS, 2000). A little less than 50 percent of all currently married adolescent girls age 15-19 years had already become mothers and only five percent of currently married adolescent girls in the age group 15-19 were using some modern methods of family planning (IIPS, 2000).

Pregnancy at an early age, before the adolescent girls are physically developed, can have serious adverse effects for the mother as well as babies. It can cause damage to reproductive tract, raise the risk of maternal mortality, complications during pregnancy and child birth, prenatal and neonatal mortality and low birth weight (Jejeebhoy, S. and Rama Rao, S., 1995). According to the NFHS-2, 1998-99, the neonatal mortality rates were highest for the teenage mothers. So also were post-neonatal and infant mortality rates (IIPS, 2000). Percentage of women with any anaemia is the highest among ever-married women age 15-19 years.

Adolescent Sexual Behaviour

Increase in the unintended teenage pregnancies, the spread of STDs and other reproductive track infections, the growing threat of HIV epidermis, more specifically among adolescents, have necessitated the public health workers to look into the sexual behaviour of Indian adolescent boys and girls.

In a traditional conservative society such as that of Indians, there are a few research studies which have attempted to collect information on sexual behaviour of the adolescents, whether premarital or within marriage. The interest in research on sexuality and sexual behaviour had developed rapidly during 1990s mainly as a response to the mounting alarms of HIV/AIDS.

It was observed from widely divergent studies differing in their objectives, approaches and methodologies of unmarried adolescents and college going youth that roughly one in four or one in five males were sexually active (Jejeebhoy S., 1996) and 6-10 percent of unmarried young females had experienced premarital sexual experience. Recently conducted study, where the extent of heterosexual behaviour and its correlates among the students of predominantly low-income colleges in the metropolitan city of Mumbai were explored, revealed that 47 percent of male students and 13 percent of female students had any sexual experience with a member of opposite sex and 26 percent of male students and 3 percent of female students had an intercourse (Abraham, L. and Anil Kumar, K., 1999).

Some important and revealing findings of the study of college going youth in Mumbai are:

- Almost all boys irrespective of their age, knew what intercourse is while the girls had only vague idea.
- The level of knowledge regarding anatomy, physiology, contraception and STD is very low while myths and misconceptions abound.
- Double standards regarding sexuality of boys and girls are prevalent. It was felt by many boys that it was alright for boys to have sex before marriage but not for their wives.
- Male students explored their sexuality mainly through commercial sex.
- Most of the students did not perceive any risk of contracting STDs including HIV/AIDS for themselves, even those who engaged in unprotected sex.
- Basic AIDS awareness did not prevent boys from engaging in unsafe sexual practices
- Sexual activity is found to decrease with increase in levels of knowledge about sex and sexuality.
- Most of the teachers from the low-income colleges were very reluctant to discuss issues of sexual activity with college students and were not in favour of sex education.
- Heads of colleges were apprehensive about and unsure of the outcomes of the sex education programmes.
- They also feared negative responses from parents.

(Abraham, L., 1997)

The studies have also indicated that the initiation of sexual activity among boys occurs relatively at an early age – 17-18 years (Jejeebhoy, S., 1996). It was also observed that a large proportion of unmarried adolescents and college going boys had relations with sex workers (Watsa, M., 1993, Goparaju, 1993). Contact with sex workers were highest among sexually active, rural adolescents in Gujarat. Seventy-eight percent of these persons reported that sexual initiation occurred with a sex worker (Sharma V. and Sharma, A., 1995).

KAP of Adolescents Regarding Various Reproductive Health Issues, Needs and Problems of Adolescents

It is extremely important to identify the needs of adolescents. As such several need assessment studies gauging the level of knowledge and attitude of the adolescents regarding various crucial issues of adolescence, have been undertaken. As many as 17 studies dealing with the needs and problems of adolescents or with their knowledge attitude and practices regarding various concerns of reproductive health, have been identified.

A study of 767 adolescent students and 142 teachers drawn from rural and urban areas of five districts of Bihar in 1998 brought out the fact that the level of knowledge of adolescents regarding physical, emotional and social developments during adolescence was average or below average. This was due to the traditional outlook of elders towards various concerns of adolescents and more so because of lack of authentic source of knowledge. Most students gain knowledge through friends and cheap literature. The girls appear to be better placed because of their closeness to mothers. The teachers in general are aware of the problems that the adolescents confront. Both teachers and students are overwhelmingly in favour of introduction of adolescence education in schools, particularly at the middle and secondary stage (Population Education Cell, Bihar, Patna, 1998).

A study of 914 (364 from XI and XII standard boys and girls and 550 under-graduate boys and girls) adolescents of Chennai city was carried out by the Department of Adult and Continuing Education, University of Madras. The study focused on following points:

1. assessing the knowledge of adolescents on sexuality and reproductive activities and health care
2. measuring their attitudes towards sexuality and reproductive health care
3. studying their need and desire to acquire knowledge on sexuality and reproductive health care and reproductive health seeking behaviour
4. studying adolescents attitude towards gender and gender roles.

The information was collected with the help of questionnaire schedule method. Following findings emerged from the study:

- (a) Adolescents' knowledge on contraception was poor in general and also quite confused.
- (b) Mean age at menarche for 651 girls was 13.2. However, the age range was wider between 10 and 16 years. Problems related to menstruation such as headache, stomach ache, excessive bleeding, nausea, exhaustion, loss of appetite were reported by girls. It was encouraging to find that most of the girls reported to have sought medical advice on menstrual health.
- (c) The friends were consulted and trusted a great on sex related matters. This clearly points out to the need of training peer group for counselling. The next trusted group was medical professionals. This indicates the importance of imparting sex education to health professionals.
- (d) The media play an important role in spreading knowledge about sexuality. More than 55 percent of the students favoured inclusion of sex education as part of school curriculum.
- (e) A large majority of school students (71 percent) and 61 percent of college students disapproved pre-marital sex. Again a large majority of all adolescent students were largely ignorant about many aspects of abortion. They were aware of legal minimum age at marriage. They were also aware of the consequences of early marriages.
- (f) A vast majority of adolescent boys and girls were of the opinions that sex education should be started after the children reach age 12 (Vaishampayan, J.V. and Srivastava, S., 1998).

A study conducted on adolescents regarding the pattern of value related to family life education and quality of life at RIE, Mysore, revealed that majority of adults prefer small family size norm. The adolescents prefer marriage-based on mutual choice but with the consent of parents (Bhattacharjee, D.K. et.al,1996).

The survey conducted on adolescence education in schools of Madhya Pradesh emphasised the need for sex education among students as it inculcates among them healthy attitude towards sex and towards members of

opposite sex. As boys and girls at adolescence age are worried about the physical and emotional changes taking place in their bodies, it is necessary to impart sex education among schools to give them proper guidance (SCERT, Madhya Pradesh, 1995).

Evaluation of Adolescence Education Activities

In Orissa, Adolescence Education has been introduced and tried out in a few secondary schools. The main purpose of this programme is to facilitate the process of effective implementation of elements of adolescence education in the context and process of school education. Apart from the textbooks, which continue to be the mainstay of the teaching-learning process, there are other activities, which reinforce the elements of un-prescribed curriculum and also textbooks. As such a series of activities are taken up in the 80 project schools in Orissa to introduce elements of adolescence education to adolescent boys and girls. The activities include: question box, group discussions, value clarification, role play, case study, debate, painting/poster competition, essay competition and quiz contest. Before introducing these activities to all schools, it was imperative to evaluate the relative effectiveness of these activities to promote adolescence education in the 80 experimental project schools in Orissa.

It may, therefore, be recommended that for successful implementation of adolescence education programme in Orissa, the question box method, group discussion, debate, quiz contest and essay competitions may be adopted which may yield more effective results (Tripathy, P. K. and Satapathy, P., 2000).

Attitude of Teachers, Parents and Community towards Introduction of Adolescence Education in School Curriculum

It is already seen that there is a felt and expressed need of the boys and girls to know more about their sexual health and problems related to physiological changes. As such the need of adolescence education – an educational

intervention is strongly felt. This need is particularly felt in the context of India, as the school curriculum here does not include the important elements of reproductive health such as sexual development during the period of adolescence, prevention of HIV/AIDS and drug abuse. Further there is a need to take into consideration the physiological, emotional, socio-cultural dimensions of adolescent reproductive health while introducing adolescence education in India (Pandey, Jawaharlal, et al., 1999).

After serious considerations, a consensus has been reached to introduce adolescence education in schools. There are some parents and teachers who harbour reservations regarding the inclusion of adolescence education in school curriculum. Their main objection is that adolescence education will encourage promiscuity and sexual permissiveness. (Pandey, Jawaharlal, et al., 1999, Attavav, K., et al., 1997).

Some studies were undertaken in different parts of India to explore the attitudes of teachers, parents and communities towards the issues of introducing adolescence education in schools. In all nine studies were identified. All but one study indicated that teachers favoured the introduction of adolescence education/sex education as a part of school curriculum. (PRC, Kerala, 1994; SISE, Punjab, 1994, SCERT, Bihar, 1998; CSD, New Delhi, 1998; Jena, N, 1994; Pathy, M.K., 1995, Pradhan, N., 1995, Mishra S., 1998).

One important point emerging from the review of attitudes is that there is a need to train teachers on various elements of adolescence education as they do not have adequate knowledge of the subject (PRC, Kerala, 1994). One study emphasised the need to identify the training requirements of teachers regarding adolescence education (SISE, Punjab, 1994). The studies also showed that both male and female teachers equally favoured the introduction of adolescence education in schools. Study in Korapat district in Orissa revealed that parents, teachers, community leaders and administrators had favourable attitude towards introduction of sex education in schools (Pradhan, N. 1995). Another study carried out in Bhubaneshwar indicated that parents of different community had a positive

attitude towards introduction of sex education in coeducational secondary schools (Mishra, S., 1998). Parents in Andhra Pradesh, while favouring integration of adolescence education in school curriculum from class VIII onwards, were of the opinion that this subject should be taught separately to boys and girls (PEC, A.P., 1995).

While studies done by various Population Education Cells, SCERTs, SIEs, (during 1994-98) come out with the finding that teachers and parents favour introduction of adolescence education/sex education in school, studies done by researchers not connected with population education and carried out at other locations reveal that teachers are reluctant to impart relevant information to adolescents.

It was very common feeling among the teachers and programme personnel that only science teachers can deal with the issue of AIDS. There is an urgent need to change this attitude before it is intensified (Verma, R.K. et al., 1997). A study of 133 teachers (70 college and 63 school teachers from Chennai city), indicated sex education or family life education was not favoured or approved by many teachers in schools and colleges. In fact they were not favouring the collection of data from students on matters related to sexuality. Some teachers described the questionnaire as, "sensitising negatively or affecting the modesty, culture and tradition of the school", (Shirur, Rajani, 1999). This finding brings out emphatically the need for advocacy programmes for teachers. The role of schools and colleges for education of adolescents on human sexuality needs to be emphasised.

Development of Life Skills Intervention Course for Adolescent Girls

Adolescent girls are vulnerable to several social and health risks. They are married off at a very young age and suffer from consequences of early motherhood. They suffer from a high prevalence of anaemia and malnutrition. Apart from deprivation, the adolescent girl's work load in the household is heavy.

Prior to developing Life Skill Course for Adolescent girls, a needs assessment study to understand the lives of girls and to develop

culturally appropriate interventions was conducted using qualitative research methods in 5 villages in Aurangabad district of Maharashtra. The course manual was developed in partnership with adolescent girls and their parents. The needs of adolescent girls and expectations of parents were assessed in 30 villages and 4 slum areas of Maharashtra.

The areas researched were:

- Reproductive Health Needs.
- Diet of adolescent girls.
- Beliefs, rituals and behaviour related to menstruation.
- Communication between mothers and adolescent girls.

The needs assessment was done through:

1. Assessment of reproductive health needs of adolescent girls.
2. Assessment of girls' activities, decision-making power, gender attitudes, media exposure and influence, social values, peer influence and communication with parents.
3. Health needs and interventions for adolescent girls, educational interventions as prioritised by parents, the role and function of parent committees, self-reliance and sustainability of programme. Information on this last area was collected in three workshops of parents.

Some key findings of the needs assessment exercise are:

- Adolescent girls have a very heavy workload both inside and outside home.
- They have restricted mobility compared to boys.
- Social expectations dictate a change in their behaviours after they attain majority. They are expected to be soft-spoken and shy.
- Their self-confidence is low.
- Their decision-making power is limited.
- Their knowledge about biological processes and reproductive matters is very limited.
- They rarely have an opportunity to participate in team activities.

The needs assessment demonstrated that the social status of the adolescent girl is low and it is essential to focus on the holistic development of the adolescent girl. An adolescent girl needs communication skills,

negotiation power, high self-esteem, and increase in self-confidence, promote self-development, legal literacy and team building. Hence the IHMP developed a one-year course on life-skills for adolescent girls.

Peer Group

One important aspect of research on adolescence education is the study on the effect of peer group on the adolescents' behaviour. Peer group specially refers to adolescent groups where members are closely bound together by youth culture. Adolescent peer group tend to have (1) a high degree of social solidarity, (2) hierarchical organisation, and (3) a code which rejects or contrasts with adult values and experience (Abercrombie, N., et al., 1984). Peer pressure is often a causal factor in the drug abuse. Peer group is also often responsible for imparting education on sex and leading to sexual initiation. Peer pressure and norms encourage the risky behaviour among adolescents and youth (Population Reports, 2002). However, peer groups can have positive influence too.

Hence many strategists for addressing HIV/AIDS epidemic make peer education a key approach. Peers can be positive role models for behaviour change when they play important role in developing social and group norms that protect from HIV infection. Most young people find trained peer educators credible, as they themselves set an example of behaviour. Trained peer educators also communicate with adolescents in a better way, as they are the best persons to understand the adolescents. Peers can also help other young people to acquire skills such as sexual negotiation and assertiveness (Fee, N. and Youssef, 1996).

Various types of peer AIDS education programmes are currently in operation in developing countries such as Indonesia, Kenya, Peru, Thailand etc. Peer education programme have been found to reduce the incidence of STIs including HIV, change risky behaviour and improve health (Population Report, 2002).

In India few research studies on the use of peer education, training of peer education, effectiveness of peer group education etc. exist.

In a paper which is an outcome of an evaluation of UNICEF funded AIDS prevention

programme undertaken by the Government of Maharashtra, role of peer communicators (students) and nodal teachers responsible for the implementation of AIDS prevention programme is discussed (Verma, Ravi K., et al., 1997). The study is based on 38 focus group discussions among the students of class IX and XI in 18 randomly selected rural schools of seven districts of Maharashtra and among 21 teachers.

The effectiveness of the peer communicators and nodal teachers in imparting AIDS related knowledge was the major concern, of the programme. The role of peer communicators is assuming greater importance in the absence of formal sex-education in the school system. It was found that most of the students interviewed during the focus-group discussions were aware that some students were trained in AIDS education, but they did not think much of them. It was also found that the two-day training programme made them acutely aware of the problem, although the knowledge gained was not disseminated as theoretically conceived. It was also found that peer communicators had more questions than answers. Most of the peer communicators helped the nodal teacher in conducting intervention events and were deemed as active organisers of such programmes. (Verma Ravi K., et al., 1997).

GENDER SENSITIVITY

One important component of the Reproductive and Child Health (RCH) Package adopted by India is Health, sexuality and gender information. Education and counselling and gender sensitivity is one of the major emphasis of the RCH approach (Population Council, 1996). Gender role forms an important component of the package of basic materials of Adolescence Education in Schools (Pandey, Jawaharlal, 1999).

Sex and Gender

Initially, it is necessary to understand the difference between two commonly used terms – sex and gender. Sex is a biological attribute of a person, which indicates whether one is a male or a female. It is customary to classify any population in dichotomous form of males and

females. Gender is used in grammar to indicate whether a person is a male or a female (feminine or masculine gender). It has recently acquired a new connotation. It refers to women's and men's roles and responsibilities that are socially determined. Gender is related to how we are perceived and expected to think and act as women and men because of the way the society is organised not because of our biological differences (World Health Organisation, 1998).

Research in India has shown that there are inequalities between women and men in various aspects of social and economic life. These are more or less because of the different roles assigned to women and men in a society. Women and men are expected to perform certain roles according to their being females and males. The power relations between women and men are also asymmetrical. These inequalities, most often bring disadvantage to women, and have given rise to several unsavory practices such as, eve-teasing, domestic violence, sexual abuse, unwanted pregnancy and abortion and rape (Pandey, Jawaharlal, 1999).

It is necessary that young and adolescent boys are made aware of their responsibility in family support, family planning and child rearing (Germain, et al., 1995). They have to learn to respect the persons of opposite sex. They also must learn to own 'responsibility' for the consequences of their sexual and reproductive behaviour.

Studies on Gender-based Inequality

The topic of gender-based inequality due to which women in India have suffered, all along, is well-studied and documented. The areas covered regarding effects of unequal treatment given to women are varied, such as: sex-ratio (females per 1000 males) unfavourable to women, declining sex-ratio of child population (age group 0-6 years) providing evidence for sex-selective abortions (following prenatal sex determination) despite the law against it, higher death rates for women in certain age groups, higher level of malnutrition among girl children, domestic violence, dowry deaths, burning, battering, neglect and humiliation of women, preference given to male children for medical treatment, unequal distribution of food in the family, son preference, lower literacy for females,

higher likelihood for women to contract STD from single sexual encounter etc.

HIV/AIDS

The twenty-first century has begun with the legacy of HIV/AIDS for young people in the world. Today's youth are the AIDS generation (Population Reports, 2002). With over 16,000 persons becoming infected with human immunodeficiency viruses (HIV) every day, the HIV is spreading in the world with vengeance (Kakar, D. N. and Kakar, S.N., 2001). HIV/AIDS is now the single largest killer and it is the fourth leading cause of death globally. HIV and AIDS prevalence in India has been on rise for more than a decade and has reached alarming proportion recently.

It is estimated that India has about 4 million cases of HIV infection (National AIDS Control Organisation, 2000) and (Hwang A. 2001) and this dreadful disease is fast spreading. HIV/AIDS is one very grave public health problem. Given the enormous size of its population, India is expected to have the largest number of persons with AIDS in the world if the present rate of incidence of AIDS continues unabated.

Acquired Immune Deficiency Syndrome (AIDS) is an illness caused by HIV virus, which weakens the immune system making affected persons very weak and unable to fight off other infections. AIDS develops between 2 to 10 years after infection with HIV as the final stage. A person with AIDS eventually dies from diseases caused by infections (Population Report, 2002). So far there is no preventive vaccine for HIV/AIDS and there is no cure for the disease. Hence, there is no alternative but to rely on behavioural and social change.

It is clear that young people are the worst affected by this dreadful epidemic. The UN AIDS statistics indicate that Worldwide people aged 15 to 24 years account for 30 percent of all people living with AIDS (UN AIDS and WHO, 2001).

Every day over 7000 more young people become infected – about five per minute (UNAIDS, 1999). In many developing countries, recent data indicate that upto 60 percent of all new HIV infections are among 15-24 year olds, with females outnumbering males by a ratio of two to one. In Maharashtra, the sentinel surveillance has revealed that there is a rapid

rise of HIV among STD clinic attendants and there is a rapid rise of HIV positive cases in age group less than 20 years among the antenatal cases. The HIV positive cases are growing more rapidly in the younger pregnant women (Salunke,S.1997).

It is being increasingly realised that the HIV/AIDS is a social crisis as well as a problem of individual behaviour. It is also becoming clear that youth must be at the centre of strategies to control HIV/AIDS. Young people need help in knowing about the risks associated with skills to avoid them. Such skills would comprise, delay of sexual debut, abstinence, and negotiations with sex partners. HIV/AIDS education should begin early, even before children become sexually active.

It has also been found that recently, there have been declines in the incidence of HIV/AIDS in some countries. These declines are accompanied by the findings that young people are changing their risk-taking behaviour. (Population Report, 2002). This gives hope and suggests that efforts concentrated on youth may prove fruitful.

Emerging Concerns

Education concerning AIDS is one of the major thrust areas alongwith other areas, namely, adolescence, sex education, drug abuse and ageing in the third cycle (1993-96) of National Population Education Project (NPEP). The population Education Unit (PEU) prepared a Training Package on AIDS education in 1994 (Society, 1995). One of the six major concepts of the reconceptualised framework of population education is Adolescents and Reproductive Health, which comprise among other topic sexually transmitted diseases (STDs) and HIV/AIDS.

The first step in combating HIV/AIDS is to spread knowledge about this dreadful disease, emphasising the aspect that it cannot be cured, and no vaccine exists for its prevention, it totally destroys the immune system and leads to untimely death. It is also necessary to spread knowledge about its transmission and preventive aspects such as safe sex (use of condoms), importance of not changing partners etc. among the general public, adolescents,

youth and also among teachers, medical and paramedical workers etc. Knowledge about misconceptions regarding HIV/AIDS prevailing in the society is also very important for the health educator. Although, knowledge regarding HIV/AIDS alone may not result in significant change in behaviour, public awareness is a necessary condition for the control of disease (Tsui, et al., 1997). Continued provision of information is useful even while efforts to change behaviour continue.

For inclusion of STD, HIV/AIDS in the contents of population education, it is essential to have idea about the awareness and knowledge regarding the nature of disease, routes of transmission and also misconceptions about the disease among adolescents, youth, teachers, parents and others.

There is a large number of studies on various aspects of HIV/AIDS in India. However, those studies done by various population education cells, population education units, NCERT, various SCERTs, State Resource Centres are considered in this review. Also such studies done by outsiders, not working in the area of population education but who have tried to assess awareness, knowledge, attitudes of school children, college students, adolescents, etc. are also taken into consideration. Some studies while dealing with other topics e.g. sexuality, have collected information on awareness attitude towards HIV/AIDS. Such studies are also included in the present analysis.

The studies basically fall under five main categories. First category which has the highest number of studies is about the level of awareness/knowledge and attitude regarding HIV/AIDS among various categories such as school students, college students and teachers, various health functionaries and general public in rural and urban areas, married women etc. Second category comprises studies of HIV positive persons. The third category is the study of high-risk group such as truck drivers and cleaners. In the fourth category are included the studies on effectiveness of AIDS intervention programme. The fifth category is about the misconceptions about various aspects of HIV/AIDS existing among people.

Knowledge, Attitude and Behaviour

One study in which information regarding awareness of AIDS, source of information and ways to avoid AIDS is available for ever-married women in India and states, is that of National Family Health Survey-2 (NFHS-2) (International Institute for Population Sciences, IIPS and (ORC Macro, 2000). The information is available for three age groups of ever-married women 15-24, 25-34 and 35-49. It seems that the youngest ever-married women have the least awareness about AIDS. Only 37 percent of the women in the age group have heard about AIDS as against 43 percent and 41 percent among the age groups 25-34 and 35-49 respectively (IIPS and ORC Macro, 2000).

There is a substantial variation regarding awareness of AIDS over states in India with 93 percent of ever-married women in Mizoram reporting awareness of AIDS and only 12 percent of ever-married women in Bihar reporting awareness of AIDS. More than 85 percent of women in Tamil Nadu and Kerala are aware of AIDS and less than 23 percent of women in Uttar Pradesh, Madhya Pradesh and Rajasthan show awareness about AIDS (IIPS and ORC Macro, 2000). Among women who have heard about AIDS, 33 percent do not know any way to avoid AIDS. This percentage is highest (35 percent) among women aged 15-24 (IIPS, ORC Macro, 2000).

A survey conducted in Madhya Pradesh on 3 percent of the students of 9th to 12th grade indicated that the students did not know beyond the basics of AIDS and STDs. Many students knew what the acronym AIDS stood for, how AIDS is spread, in general. But about half were confused as to why an AIDS-infected person dies. Only one-fourth knew that AIDS could spread through non-sexual contact as well (Pathak, R. and Panwar, N. 2001).

A study of 748 students of Madras University, measuring the level of awareness regarding HIV/AIDS, in 1996, revealed that the students had fairly good amount of knowledge about HIV/AIDS. One interesting finding of the study was that there was no difference in the level of knowledge of HIV/AIDS between those who participated in the college organised AIDS awareness campaign and those who did not participate (Shirur, R. et al., 1996). This finding

raises doubts regarding the relevance of AIDS prevention programme.

A study undertaken to gauge knowledge and awareness level of Delhi University teachers regarding HIV/AIDS, revealed that only 25 percent of teachers (17 percent male teachers and 38 percent female teachers) knew all the modes of transmission of HIV. The teachers also reveal some misconceptions regarding transmission of HIV. For example, only 5 percent of teachers agreed that HIV is not transmitted because of eating together. Fifty percent of the teachers considered that blood donation is not safe.

HIV Positive Persons

Three studies were carried out by SNDT students on the HIV positive persons. One using case study approach tried to study psychosocial reaction of women with HIV/AIDS (Mathew, R. 1996). The women studied felt isolated and experienced stigma and shame. In most of the cases, families did not help them in coping with HIV.

Another study attempted to study the coping strategies of persons with HIV/AIDS. The study found that older cases with HIV/AIDS were comparatively more adjusted, than the recently diagnosed patients who experienced depression, fear and anxiety (Mathur, Sweta, 1998).

In third study comparison of two groups (information on the characteristics of two groups and the distinguishing features of the two groups not provided) of HIV positive persons was attempted regarding the knowledge, attitude and sex practices. In one group only 25 percent of the sample (sample size not given) knew about the causative factors of HIV, whereas in another group, 82 percent knew about the causative factors of HIV. One disquieting fact revealed by this study was that the use of condom was not known to majority of males and females of both the groups (Kolokhe, M. A., 1994). No case of homosexuality was found in both groups.

High Risk Groups (Truckers)

In the early stages of HIV/AIDS epidemic health programmes and researchers focused their attention on the high-risk population such as

female sex workers, truck drivers and their assistants; homosexuals etc. It was the belief of the general population that AIDS was only found among sex workers and truckers.

Studies in India have shown that truck crews are at high-risk of contacting and transmitting both STD and HIV on account of their high-risk behaviour. The truck drivers and helpers (cleaners) are vulnerable to STDs and HIV infections. It was felt necessary to get information about the sexual behaviour of the truckers, their knowledge about STDs and HIV, their need for health services.

Studies done about long-distance truck drivers in India are few. These studies show that the Indian truckers who have multiple partners have poor knowledge about HIV/AIDS and use of condom is meagre.

A study of 357 truck drivers and their helpers with regard to their knowledge and attitude towards HIV/AIDS and also their sexual behaviour was undertaken by Population Education Cell of State Resource Centre, Pune in 1999. This study provided baseline information of a sample of truckers on Mumbai-Bangalore highway regarding their sexual behaviour and their reproductive health needs in the context of STDs and AIDS. The above baseline information was collected in order to chalk-out future strategies for reducing the risk behaviour of the truckers. A sample of about 3 percent of 10,000 truckers, which ply on Mumbai-Bangalore highway, was interviewed. The information was collected with the help of interview schedules. One important aspect of this study was the provision of on-the-spot health services such as medical check-up, distribution of condoms and distribution of print material.

The study concluded that the truckers had less information about STDs and AIDS, health services and prevention and that puts them in vulnerable position (Khadilkar, Vidya, 2001). An important suggestion of the study was that the truck drivers should be given information about the STDs/AIDS at the office of the RTO before issuing them driving licenses. It should also be made mandatory for the employers to provide information about STDs/AIDS, to the truck drivers and cleaners (Khadilkar, Vidya, 2001).

The Bhoruka Public Welfare Trust (BPWT) a non-governmental organisation started a unique

HIV/AIDS intervention programme among truck drivers and their helpers in West Bengal. The entire intervention strategy included, counselling, HIV testing, information dissemination, peer education and the provision of medical care and condoms (Majumdar, A., 1998).

Effectiveness of AIDS Intervention Programme

In a study conducted in selected districts of rural Maharashtra, it was observed that activities carried out in the AIDS prevention education programme had led to a certain amount of curiosity in the minds of students. However, there is need to channel the curiosity to some kind of knowledge. Most students were not sure whether AIDS could affect them. However they felt that lecture sessions in AIDS prevention programme were very useful. It was felt among the teachers that only science teachers can deal with the issue of AIDS. The teachers in Bihar also felt that biology teacher is ideal person to teach AIDS education (SCERT, Bihar, 1996). The study concluded that the interpersonal components (peer communicators and nodal teachers) of the AIDS prevention education programme should be strengthened. It is also important to realise that traditional attitudes towards sex and the tendency to restrict the flow of information on human sexuality, reproduction, STD and AIDS are major impediments (Verma, R. K. et al, 1997).

In another study, (Arora, S, 1996) an attempt was made to assess the impact of AIDS prevention programme. The adolescents studied had received the treatments of AIDS prevention programme. The following findings tell on the impact of AIDS prevention programme:

- (a) Only 25 percent were aware regarding the difference between HIV, STD and AIDS and only 29 percent knew that having STD puts one at greater risk of HIV/AIDS.
- (b) Forty-six percent were not aware that AIDS cannot be cured.
- (c) Nineteen percent believed that condoms could be safely re-used.
- (d) Fifty-nine percent know that condom use can prevent sexual transmission of HIV.

Misconceptions

The area of STD, HIV/AIDS contains a good deal of misconceptions about the transmission, prevention and curative aspects of the diseases. In Indian society, sexuality is a taboo topic about which no clear unambiguous information exists. Such situation gives rise to several misconceptions.

A study of students of low income group colleges in Mumbai, revealed following major gaps in the information the students had about HIV/AIDS.

- They did not know that each unprotected act of sex carries the risk of STD including AIDS.
- They thought that AIDS is associated only with commercial sex.
- They had not heard the term STD (for them STD was only a telephone facility) (Abraham, Leena, 1997).

Common misconceptions among the students of the University of Madras, were:

- Masturbation leads to weakness and loss of weight.
- Hugging, kissing, sharing plates and bathrooms may lead to HIV infections.
- Only having multiple partner sex leads to HIV infection.
- Giving blood could lead to AIDS (Katarya, G., 2000).

DRUG ABUSE

Drug Abuse

A drug is a chemical substance that alters the physical or mental functioning of an individual when introduced in the body. When drugs are taken for reason other than medical in an amount, strength, frequency or manner that damages the physical or mental functioning of an individual, it is "drug abuse" (Pandey, Jawaharlal, et al., 1999). Drug abuse is also defined as the harmful medical use of mind altering drugs. The continued use of one or more such drugs, also called psychoactive drugs can lead to poor health and to personality and behaviour problems (The World Book Encyclopedia, 1994). Drug addiction is the inability of a person to control the use of a drug.

Commonly abused drugs are illegal, i.e. their possession or sale is forbidden by law. They include marijuana, cocaine, heroin and such hallucinogenic drugs as LSD. Other abused drugs can be obtained legally only with a doctor's prescription. They include amphetamines, barbiturates and other sedatives such as morphine and tranquilisers. Some drugs can be bought legally without prescription in most countries. They include alcohol, nicotine which is present in tobacco. (the World Book Encyclopedia, 1994).

Most of the drug addicts start using drug out of curiosity, or to have some pleasure derived after the intake of drug. Quite often the drug is taken under the pressure of some friends or peer group. Some take drug, as they believe that it will help them to relieve their boredom, depression and fatigue. Persons frustrated in life also start taking drugs. One most important factor in causing drug-abuse is the easy availability of dependence producing drugs (Pandey, Jawaharlal et al., 1999).

Drug abuse leads to drug addiction with the development of tolerance and dependence. One needs increasing amount of drug to experience the same effect. Soon the drug user develops psychological and physical dependence and it becomes quite difficult to free the person from the habit of drug addiction.

Adolescents are more prone to drug abuse. In fact majority of drug addicts take to drug abuse in their adolescence. Drugs have impact that leads to serious physical, mental and economic damages. The drug addicts spend much time under the influence of drugs with the result that they neglect their family, work and health. They find it difficult to keep a job. They fail to eat well and maintain personal cleanliness. Addicts who inject drugs are likely to get such diseases as hepatitis, tetanus or HIV/AIDS from an unsterile needle. The best way to save oneself from the drug addiction is to say "no" to drug for the very first time.

Drug abuse has been one of the four "Emerging Concerns" of the Population Education Project in its third cycle, along with adolescence/sex education, education concerning AIDS and ageing. Drug abuse is one important component of reconceptualised framework of Population Education (Pandey,

Jawaharlal, 1996). It was found that not much work has been done in this area of major thrust. However, Population Education Resource Centre, Bangalore University has recently prepared an annotated "Review of Research on Drug Abuse among Indian Adolescents". The period covered in the review is after 1990. The Review includes studies that deal with adolescents only. The Review contains 117 Research abstracts, which may not be exhaustive. It is however, useful for any researcher who wants to get acquainted with the topic of "drug abuse". (PERC, Bangalore, 2000).

Present review of research on 'drug abuse' heavily relies on the Review of Research on Drug Abuse among Indian Adolescents. One hundred research studies on drug abuse have been classified into different groups such as surveys carried out to assess the prevalence of drug abuse in various population groups i.e. students, child labourers, non-adolescent youths, medical students; types of drugs used, relationship between intravenous drug users and HIV, comparison between drug-users, and non-users, factors associated with drug use, prevention of drug abuse, comparison between alcohol users and drug users, family support, environment and drug abuse, opium addiction, heroin addiction etc. One-fourth of these studies deal with prevalence of drug use among various population groups of medical students, non-medical students, child-labourers and non-adolescent youth.

Effects of Drug Abuse on Health

The use of tobacco, alcohol, other drugs and harmful substances affect adversely the health of youth. Quite often these habits start during adolescence and persist into adulthood. Alcohol and drugs may impair judgement and increase risk-taking behaviour such as dangerous driving, unprotected sexual relations, accidental (all have harmful effects) injury and violence. Because of the use of impure drugs, overdose is a constant risk. Sharing needles used to inject some drugs, increases the risk of contracting HIV/AIDS. It was shown that heroin users score high on neuroticism, and low on intelligence, emotional stability, ego strength

and low self sentiment integration (Narayan, R. S., et. al, 1997). Another study revealed that drug users had below average memory (Rajendran, R, 1997).

Drug Trafficking

Effects of drug abuse can be felt at many levels; on individuals, on family, on community and on nation. At national level, drug abuse gives rise to the crime rate. Because of several ill effects of drugs, drugs have been declared as contraband commodity by many nations and there are restrictions on cultivating and manufacturing and transportation of drugs. These restrictions give rise to various crimes. To curb the menace of drug trafficking of narcotics the Government of India, has derived an anti-drug policy through NDPS act of 1985 and PIT NDPS act of 1986. The cases that have been registered for various drugs and narcotic seizures have shown a steep rise. (National Crime Record Bureau, 1994).

Education on Drugs

To fight the menace of drug abuse, it is necessary that children are made aware of the drug abuse and as such it is necessary to impart education on drugs abuse to the children. Education on drug abuse should be an integral part of school curriculum.

In the education programme of drug addicts in Manipur, ex-drug addicts are being used as educators and peer supporters by many NGOs and it is slowly gaining support from the Government.

ADOPTION OF VILLAGES

Laboratory Schools and Adopted Villages

In order to generate interest in children regarding various population related issues and to provide them the opportunities to gain practical experience in real life situations, an innovative approach has been introduced recently. This new approach is being called as Population Laboratory Activities and its extension programme is designated as Adopted Village Activities (Mahapatra, G.S., 1998).

Population Laboratory and Adopted Village Activities form co-curricular and extra-curricular activities for the school children and as such help them in keeping their interest alive in population and development.

The Population Education Laboratory (POPED LAB) Programme was first tried in Maharashtra and when it was found to be quite successful, it was extended to other states. This programme consists of two types of activities—School-based Activities and Adopted Village-based Activities.

This innovative idea was introduced in Orissa in 1991. The schools were instructed to adopt one backward/underdeveloped village/slum area near the school, and to disseminate the message of population education among the villages. Other important activities were : (1) to expose the pupils of POPED LAB to real life situations prevailing in adopted villages and thus gain practical experience and also engage the villagers in some developmental activities (2) to explore the areas of collaboration of the POPED LAB schools with non-governmental organisations (NGOs), Governmental Agencies, Voluntary Organizations (3) to motivate and encourage teachers of the POPED LAB Schools to realise the seriousness of the population issues (4) to develop awareness among the villagers regarding various population related issues, and (5) to carry out a number of activities in the adopted villages for raising the quality of life of the villagers.

The village adoption scheme in Orissa was implemented in two phases—1987-90 and 1991-95. An evaluation study of the scheme revealed the following:

- (a) The major activities organised in adopted villages were (i) family life and family welfare programme (ii) awareness generating programme, and (iii) health and cleanliness.
- (b) The agencies involved in the Village Adoption Programme were Health and Family Welfare Department, Government of Orissa, State Resource Centre and District Saksharta Samiti (where literacy programme were going on).
- The Shortcoming of the village adoption programme were:
 - Inadequate financial assistance.
 - Lack of incentive to teacher in charge

of the programme and opinion leader of the village.

- Lack of sufficient audio-visual aids for dissemination of POPED ideas.
- Inadequate supply of pamphlets (posters).
- Majority of villagers (83.33%) were exposed to the idea of small family norm and 76.66% of villagers were exposed to the idea of responsible parenthood.
- The highest percentages (50%) of villagers registered their views that delayed marriage ensures limits to the size of the family.
- Majority of the respondents (96.66%) opined that nowadays the girls have rights like boys to give *Pindadan*. The word, now-a-days indicate that they were quite exposed to the concept of population related beliefs and values.
- Majority of respondents (66.6%) opined that sons and daughters be treated equal because both perform equal and excellent work.
- Majority of villagers (56.6%) were exposed to the idea that there was no medicine to cure AIDS and education on AIDS would help them to be away from the infections of HIV/AIDS.

As a part of area-based approach some schools and SRCs have adopted some backward villages or urban blocks. The goal has been to develop these villages educationally, socially and economically. Evaluation carried out by external agencies of various SRCs point out that the SRCs of Maharashtra, Bihar, Orissa, Tamil Nadu and Haryana had adopted backward villages.

COST-EFFECTIVENESS OF TRAINING STRATEGIES

Cost-effectiveness analysis is used in evaluation of training modalities and in choosing the modality which yields the best training results of specified cost. A study conducted on cost-effectiveness of training modalities of 200 secondary school teachers in Angul district of Orissa revealed that performance of teachers trained in centralised training modality was better than that of those trained in decentralised modality in both respect of knowledge and

attitude. However, the cost of centralised training modality was higher than that of decentralised training modality. Hence the conclusion was: "the decentralised training modality was found to be the most cost-effective training modality" (Sahoo, S.C., 1996).

Implications

The studies have pointed that the most effective training modality is the most costly and the least costly training modality is also the least effective. In such condition, considering the financial constraints (availability of funds and huge backlog of teachers to be trained), it is suggested that the states/UTs, should combine population education training programmes with the existing training programmes (Yadav, Saroj, 1998). By dovetailing population education into the existing teacher training programme, it would be possible to train a large number of teachers with minimum resources.

CONTENT ANALYSIS

Introduction of elements of population education into various components of existing school system has been adopted in the population education project. The population education is not considered as a separate subject in the school curriculum. The project activities aimed at identifying plug points in subject matter of selected subjects taught in the schools and introducing the elements of population education in the on-going subject areas of the school curriculum. Thus the syllabi and textbooks were revised with the integration of population elements in the school curriculum.

In the Evaluation of Population Education Programme in Formal School System, the 'content analysis' of various subjects textbooks of standard I to X for the status of Bihar, Gujarat, Maharashtra, Kerala and those of NCERT prescribed in Delhi, Mizoram and Assam was carried out. The main objective was to identify lessons having population elements and to find out the extent of coverage given to each of the six content areas of population education specified by NCERT.

- (1) Population Health and Nutrition
- (2) Population Environment and Resources

- (3) Population and Family Life
- (4) Demographic Implications
- (5) Population and Economic Development
- (6) Population and Social Development.

The main findings were: Although population related contents have been included in the on-going syllabi of various subject text-books, it is seen that there are enormous variations in the approach adopted for incorporating population elements. The choice of plug points also varies from state to state. It appears that adequate treatment to a particular content area is given only when there is a full lesson devoted to it. One area that does not find place in the textbooks is the "equality of sexes". In fact in some textbooks, sex-stereotypes are mentioned (Tara, Kanitkar, et al., 1990).

In an exercise of preparing inventory of Population Education Research in India (NCERT, 1993), it was found that there were very few studies in the areas of Curriculum Development and Teaching Methodology. As per inventory mentioned above, in all 7 studies (of which three were M.Ed., one was for M.Phil. degree) of 86 listed (less than 10 percent) were devoted to analysis of population education content in the school syllabi and textbooks.

Content Analysis of Textbooks of Classes III to XII

One very important aspect of the mid-term evaluation of Population Education Project of the Society for Applied Report in Education and Development in 1995 is the content analysis of the textbooks of classes III to XII produced by NCERT and state agencies of states namely, H.P., Karnataka, M.P., Nagaland, Rajasthan, Tamil Nadu, U.P. and West Bengal (States not covered by IIPS in its Evaluation). The textbooks of National Open School and of Non-formal education were also included in the content analysis. The content analysis of textbooks was undertaken to find out the coverage of various population education themes in the books. This exercise was important as it is generally found that the textbooks are the main instruments in the teaching of any subject. The students get exposed to population education only through these textbooks. As in other content analysis study, the six themes provided in the document

"Minimum Essential Contents of Population Education" produced by Population Education Unit of NCERT in August 1988, formed the basis for content analysis. The seventh theme added to the list was that of Adolescence Education which covered the "Emerging Concerns" including sex education, education about the drug abuse, AIDS and ageing. The content analysis was one important aspect of this evaluation study.

It was observed that at present stage the content on "Emerging Concerns" were almost non-existent in most of the books that were examined. The mid-term evaluation study of content analysis of textbooks also draws attention to several aspects and focuses on some recommendations.

In general, the presentation style of the POPED content in textbooks of the different stages has been rated as satisfactory and the language of the text easily comprehensible. However, most of the content was found to be providing simple factual information, and understanding of the concepts; the content that could be considered suitable for producing attitudinal change was rather scarce.

Although POPED content is included in textbooks of social sciences and science at the upper primary and secondary stages, their coverage in language textbooks is meagre and sporadic. Nevertheless, in the course of evaluation of textbooks some lessons in language textbooks were noticed which covered POPED messages in a very effective manner.

IMPACT STUDIES

Impact study is one very important component of the evaluation of population education project. Since population education project is an intervention project, it is imperative that its impact on those for whom it is meant (such as school children, adult learners, university students etc.) is studied. As such, impact studies are carried out in various population education projects.

A large number of impact studies pertain to the impact of the population education contents on the adult learners of post-literacy and continuing education.

Impact of Population Education on Adult Learners

The main points emerging out of the impact studies may be summarised below:

- (1) Neo-literates, particularly the females, were more aware than non-literates on various aspects, such as, family planning, health and social problems. The study positively showed an impact of Total Literacy Campaign on neo-literates with respect to their awareness of various family life issues.
- (2) Majority of learners benefited from the programme.
- (3) More than three-fourths of adult learners favoured two-child family, yet 60 percent desired for a son.
- (4) Ninety percent of the adult learners were knowledgeable of various methods of contraception and only 42 percent had ever-used a contraceptive method.
- (5) Fifty-seven percent of adult learners were of the opinion that there should be at least three years distance between two children.
- (6) Forty-three percent knew that predetermination of sex of the foetus is possible (Khandai, Hemant, 2000).
- (7) One interesting finding, regarding the knowledge of various methods of contraception, was the higher non-response from the women for the male methods and higher non-response from the men regarding female methods.
- (8) The participants of continuing education were more aware of population facts than non-participants. Majority of participants and non-participants of the continuing education knew about family planning methods and small family size norm. The participants on the whole are more aware of reproductive health than the non-participants.
- (9) The individual and community hygiene, population explosion and standard of living, proper age at marriage and family planning were strong areas where the beneficiaries had scored well.

Impact of Population Education on Students and Teachers

A study to assess the impact of the teaching of population education in schools was conducted by MODE Pvt. Ltd. in Delhi in 1993. It was found that the teaching of population in schools had a positive impact on school children with 95 percent of students perceiving population as one of the major problems of the country. A little more than half of the teachers recommended that population education be taught as a separate and compulsory subject in the schools. Sixty percent of the teachers desired that more activities be organised in schools on population education including use of audio-visual aids. The study also suggested training of teachers, introduction of question on various population issues in the examinations and use of innovative teaching method (MODE Pvt. Ltd., 1993).

In a study by OASES (1997), students, urban as well as rural, were found to have favourable attitude towards small family norm. The rural girl students were surprisingly, found to have better understanding than urban girls. It was observed that more than 70 percent of the teachers favoured small family norm.

A pilot study to assess the role of population education in affecting the reproductive behaviour of young people in terms of increase in spacing between successive birth and desire for a small family was conducted in 1995. The study indicated no difference in actual age at marriage between the groups of those studied upto standard VIII and that studied between standard IX and standard XII. A vast majority of women become pregnant within first year of their marriage irrespective of their educational attainment. Spacing between successive births was about two years. Here also marginal difference was observed between the two education groups. Forty-eight percent of respondents reported to be currently using any family planning method. Current use of family planning was substantially higher among those who had studied upto standard XII.

Again percentage of women seeking institutional deliveries was higher among those who had studied upto standard XII. Average number of children born was higher for those studied upto class VIII than for those studied upto class XII (MODE Pvt. Ltd., 1995).

Studies on Effectiveness of Training Programmes

Four studies were carried out about the effectiveness of Training Programmes in Bihar, 1994; Nagaland, 1995; Gujarat, 1993 and West Bengal, 1995. In West Bengal, effectiveness of the exemplar materials regarding various population issues on students was studied. It was found that the use of exemplar materials was quite effective and the students showed a lot of interest in knowing more about population education elements (SCERT. West Bengal, 1995).

Two studies related to the effectiveness of training programme found that in two states training programmes carried out were deficient in several ways and hence were not effective. The training programme in Gujarat covered an inadequate number of primary school teachers, lacked instructional materials and audio-visual aids. The study suggested several ways for improving the quality of training and emphasised the need of highlighting the necessity of organising co-curricular activities.

The study on impact of training programme of key persons in Bihar brought out the positive usefulness of the training programme. A large majority of the participants found that the training was interesting and impressive. In fact they demanded that the hours of training should be increased (SCERT Bihar, 1994). A study on the effectiveness of utilisation of Teacher's materials, prepared and supplemented under population education project, in Uttar Pradesh, revealed that books played a very important role in creating proper attitude towards population problems.

Impact of Population Education Week

Population week around 11th July (World Population Day) is observed by SCERTs, SIEs. During this week lots of activities related to population issues such as elocution, debating and essay competitions, poster competitions, lectures by experts, rallies, camps are carried out. The objective is to spread awareness about various population issues and inculcate positive attitude. The impact evaluation of the observance of population education week was

carried out in two states – Uttar Pradesh (1995) and Rajasthan (1994). Both studies pointed out that observance of population education week had created awareness about various population problems and also had affected the attitude of children positively (SIE, Uttar Pradesh, 1995) and (SCERT, Rajasthan, 1994).

EVALUATION

Evaluation of Population and Development Education Project in Schools

First comprehensive evaluation of the National Population Education Project (NPEP) in formal education system covering first two phases of the project was carried out by the International Institute for Population Sciences (IIPS), during 1989-90 encompassing evaluation of the process of implementing the NPEP, content analysis of the school textbooks and impact of NPEP on cognitive (awareness) and non-cognitive (attitudes) outcomes of the students and teachers. The evaluation also came out with specific recommendations for the improvement of the project at the national and state level (Kanitkar, Tara, et al., 1990).

The mid-term evaluation of the third phase (1993-96) was undertaken by the Society for Applied Research in Education and Development, New Delhi, in 1995.

It was decided that the evaluation would be carried out for Population Education Unit (PEU) of NCERT in the following eight states: Himachal Pradesh, Karnataka, Madhya Pradesh, Nagaland, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. The society evaluated NPEP, identified gaps and offered some recommendations. The study did not aim at evaluating the impact of population education programme on students and teachers.

For proper evaluation of the effectiveness of curricular and other materials, content analysis of all textbooks of classes III to XII and those of National Institute of Open Schooling and Non-formal education was carried out in order to provide information on coverage of various Population Education (POPED) themes and not only the theme relating to Emerging Concerns (Adolescence Education, Sex Education, AIDS Education, Education against Drug Abuse,

Ageing etc.) (Society for Applied Research in Education and Development, 1995).

Evaluation of the effectiveness of curricular and learning, and training materials was based on the detailed content analysis of textbooks. Evaluation of the effectiveness of newly developed instructional and training material in POPED for all school stages and teacher education was carried out by studying the materials developed by PEU of NCERT and Population Education Cells (PECs) of eight selected states. For evaluating effectiveness of Question Bank, questions included in the Question Bank were examined.

For assessing the strategy adopted and activities carried out for integration of POPED in Non-formal education, content analysis of the books, prepared for learners in Non-formal education centres by the state governments as well as some of the NGOs, was carried out.

Interstate variations in the quality of materials produced was evident. Teacher training in POPED was better integrated at elementary level courses than at the secondary level. In-service teacher training was not properly planned. Not much Population Education related work was found in the area of non-formal education. At the time of evaluation there was not much collaboration between PEU and the Department of Non-formal Education in the NCERT. The efforts with regard to developing a Question Bank in Population for incorporation in public examinations were found to be haphazard. Four out of eight states studied had not undertaken it and for one Question Bank was only in draft form.

The states in general had organised most of the co-curricular activities proposed in their work plans. The system of monitoring and evaluation evolved for NPEP at national and state levels was found to be weak. One important reason for ineffective monitoring and evaluation is the limited staff of the PEU to manage the implementation of NPEP in 29 states and Union Territories.

The Evaluation Report Concludes

At this stage of development in India, population education needs further support and strengthening. It cannot be assumed that what

has been achieved in the last 12 to 15 years is sufficient and necessary consolidation has taken place. Efforts needed now should be more vigorous and self-sustaining, rising above the level of mediocre and routine coverage of Population Education in school curricula. More research for improvement of programmes, greater inputs in development and adoption of innovative methods, and increased interaction with other concerned agencies such as Boards of School Education, NCTE, Colleges of Education and DIETs, are the need of the hour at this stage. Also monitoring of NPEP needs to be strengthened considerably.

Evaluation of Population and Development Education in Post-Literacy and Continuing Education

This project was first evaluated in 1991 – five years after its launching. The findings of evaluation were used while preparing for the second phase. In 1996, a detailed review of the Project was undertaken by Country Support Team (CST), Kathmandu. Final evaluations of the second phase of the project was carried out in 1998, by Educational Consultants Ltd., New Delhi; Gokhale Institute of Politics and Economics, Pune; Centre for Media Studies, New Delhi and Educational Consultants Consortium, New Delhi (UNFPA, 2000).

Major findings of the final evaluation were:

- There was a significant difference between neo-literates and non-literates on knowledge of important issues such as minimum age at marriage for boys and girls, problems of early marriage, spacing of children, gender equality and equity, breast feeding and family planning. This indicated impact of the programme.
- The materials developed by the SRCs are adequate but the dissemination mechanism needs to be strengthened further.
- Most community leaders involved in the programme have developed positive attitudes towards population issues.
- The volunteers have positive attitudes but the logistics of training their large numbers have to be worked out.

Evaluation of Population and Development Education Project in Higher Education System

The Population and Development Education Project was evaluated by Educational Consultants India, Pvt. Ltd., after its second phase in 1997. Variations in the performances of various PERCs were pointed out. The evaluative study suggested "systems approach" at the UGC, PERC and PEC levels for improving, monitoring and management of project activities. The study also recommended that a multi-pronged strategy may be adopted for the development of curriculum (UNFPA, 2000).

Recent Evaluation

The Review Report presents Issues, Constraints and Opportunities for each Project, at the end. Summary of the findings on some important aspects of population and development education and recommendations of the Review Team is presented in following paragraphs, separately for each project.

Co-curricular Activities

NCERT

Research persons need some kind of gender sensitisation training.

DAE

Two important themes – reproductive health and adolescence education appear in advocacy work and training material. Gender equity also figures. However, holistic understanding of patriarchy and its implications for the empowerment of women is not visible.

Adolescence Education Contents in the Curriculum

NCERT

Several of the post-ICPD concerns are not reflected in the existing curriculum. It is also very likely that some of the concerns that were integrated in earlier phases need rewriting to properly reflect the gender and human right perspectives.

Crucial linkage needs to be established between Population Education Cell and Education Board. NCERT is recommended to identify all such states and make efforts to strengthen the linkage.

DAE

The prospects for integrating population and development education and adolescence education content in post-literacy and continuing education training curriculum as well as transactional material needs to be explored and advocated.

- a) High-level commitment at the Centre and commitment from UNFPA and TSU. In addition, strong technical and personal support from PEC staff at NCERT.
- b) Presence of structure to monitor the programme at higher levels. NSCs and Inter-sectoral coordination committees, if meet regularly, can provide focused direction to the programme. Regularly held PPR meetings are good opportunities to confront the issues in right earnest.
- c) Presence of DIETs/DEOs and inspectors of school provide good opportunity to the programme to have regular monitoring of the programme. They need to be tapped more carefully.
- d) New "paradigm shift" provides an opportunity to discuss real issues to the teachers and students.
- e) Media particularly local press was found very supportive in all the school-based efforts. These opportunities need to be used to its maximum potential.
- f) Co-curricular activities are institutionalised activities in the school system. Right kind of guidance and competitive spirit can bring in a lot of innovations. Some of the States displayed these innovative initiatives.
- g) Pre and in-service training programmes for the teachers are the best opportunities to institutionalise population education activities.

UGC

Population and development education (wider concept – with emphasis on gender, reproductive

health, adolescence and sustainable development post-Cairo) in higher education can be imparted in the following ways:

1. Offering certificate/diploma courses in population and development education.
2. Incorporating population and development content, to the extent possible in related existing courses, which are compulsory for specific disciplines.
3. Introducing population and development education as a foundation course in part IV of under-graduate curriculum.
4. Developing a capsule on adolescence education to be compulsorily transacted in refreshers courses of academic staff colleges.

Co-curricular route specifically via national service scheme (NSS) / community awareness programmes for students may also be a method to start the process of institutionalisation. With the redefinition of population education there is a better scope of coordination between PERC and Centre for Adult and Continuing Education and Extension. Each PERC should be encouraged to plan activities within a given budget. The PERC personnel may evolve the plan for the activities in a participatory manner. (UNFPA, 2000).

External Evaluations of State Resource Centres

Besides the above mentioned evaluations of the Population and Development Education Projects, some State Resources Centres were evaluated by some independent Institutions. The SRCs which were evaluated are: *Deepayatan* (Bihar), New Delhi, Lucknow, Pune, Indore, Adri (Bihar), Rohtak (Haryana), Bhopal (M.P.), Aurangabad (Maharashtra), Karnataka, Himachal Pradesh, and Chandigarh.

Other Evaluations

Evaluation of population education programme in the Non-Formal Sector of Education in Tamil Nadu carried out in 1995, revealed that population education programme could not gain importance because of lack of motivation of the functionaries and inadequacy of coverage of content in population education training/learning materials (Annamalai University,

Centre for Population Studies, 1995). It was also found that only one-fifth of the educators had training in population education. The level of awareness among male and female learners was low, but quite high in resource persons. The study found that the system of Non-Formal Education itself lacks in adequacy and uniformity in terms of infrastructure, curriculum and training. The study suggested the utilisation of voluntary organisations in the implementation of population education programme in non-formal sector in Tamil Nadu.

An Evaluation study of co-curricular activities in creating awareness among the students and community carried out by SCERT, Himachal Pradesh, 1995, revealed that the students had shown more interest in organising various co-curricular activities in population education. The teachers felt that co-curricular activities be made an integral part of school curriculum.

MISCELLANEOUS STUDIES

Some studies, which could not go legitimately in any of the categories mentioned earlier, were categorised as miscellaneous. A small write-up on the miscellaneous studies is presented below:

1. A study was conducted to compare the effectiveness of two methods namely curricular and co-curricular in teaching population education to class VII students of a city in Orissa. The sample was restricted to the class VII students of age 11 to 12 years. Experimental design (controlled group and experimental group) was adopted for the study. Questionnaires, charts, diagrams and population scenario were used for collecting information. Observation schedules were used for the experimental group. For controlled group extracts of the textbooks of class VI and VII in different subjects were used.

It was found that co-curricular methods were definitely more effective than curricular method of teaching population education elements for several reasons. It gave scope for free interaction and better understanding. There was adequate scope for the clarification of doubts in the way of self-involvement in co-curricular method, whereas curricular method confined the students to the contents of textbooks. The

knowledge imparted through books is theoretical, hence students liked co-curricular method more than the curricular. Co-curricular method is joyful and interesting and therefore students were able to keep-up their interest in population education (Behera, K., 1997).

2. A study was undertaken to find out to what extent the core contents of population education have been incorporated in the textbooks of Geography, History and Civics of class VIII in Orissa. The study aimed at:

- i. analysing the textbooks on Geography, History and Civics prescribed for class VIII to find out the adequacy and relevance of the contents included.
- ii. to identify population education contents with low content visibility to suggest further integration. The study was done under following three headings:
 - (a) analysis of independent lessons on Population Education,
 - (b) analysis of integrated lessons on Population Education, and
 - (c) view of experts.

It was found that only two independent lessons were devoted to Population Education in the Geography and Civics. In the History textbook, there was no independent lesson on Population Education. The following core contents were covered in these two lessons:

Geography	<ul style="list-style-type: none"> ● Family size and family welfare ● Population and resource development
Civics	<ul style="list-style-type: none"> ● Population dynamics ● Population related values and beliefs ● Population and protection of environment ● Others

It was found that:

- i. The contents of existing textbooks of social sciences for class VIII were inadequate to enable the learners to achieve the objectives,
- ii. There is, moreover, lower visibility of contents, which has no direct bearing on population issue, and
- iii. Only one core message – causes of population distribution has been covered in Geography and another – population growth

and its impact on some factors has been highlighted in Civics.

Regarding the integration of Population Education in the lessons of textbooks, it was found that the contents were inadequate and meagre, and had negligible visibility.

The experts views on the integration of Population Education contents in school textbooks was:

- i. Inadequate in number
- ii. Poor in visibility, and
- iii. Poor in relating the subject matter to population.

It was concluded that Social Sciences textbooks (Geography, Civics and History) of class VIII students of Orissa are not developed with due consideration to the core contents of National Population Education, 1986. It is necessary that curriculum framers, the textbook writers and reviewers should be made properly conversant with population education contents either through refreshers courses or seminars (Sethi, K. C., 1995).

3. One successful experiment to involve local participants in population and development education through street corner plays was carried out and documented by State Resource Centre, Jamia Millia Islamia, Delhi. A workshop was convened for identifying potential groups from a semi-rural community near Delhi, train them for script writing, acting and directing a street corner play and also staging a play in and around community. Nearly 30 shows of street corner plays were arranged and around 20,000 audience belonging to various communities witnessed the show. Crucial issues like adolescence reproductive health, AIDS were addressed in these plays. On the spot interviews of 540 spectators were revealed that the plays had tremendous impact on individual life. Currently this successful activity has become an integral part of Population and Development Education Project of the State Resource Centre (Rehman, S., 2000).

4. A study by Research Unit of State Resource Centre, Mysore, on integration of population education messages in total literacy campaign was conducted in two districts of Karnataka namely Shimoga and Tumkur. The main tool of data collection was the questionnaire. Random sampling method was

adopted for identifying the respondents. The 100 respondents were neo-literate as well as the functionaries in total literacy campaign.

There is a high level of awareness in both districts regarding population education messages. Although knowledge level on small family size norm, immunisation and environment is high, the two items the neo-literates had internalised are the importance of breast milk and oral rehydration therapy. The weakest point was the status of women. Bias towards girl child was very strong.

It was suggested that population education related messages should be rural oriented and rural-based (Maruti, N. S. et al., 1998).

5. A study was conducted regarding various practices and beliefs of women regarding pregnancy and infant care in slum areas of Hissar City. One hundred and twenty mothers who had children in the age group 0-5 years were randomly selected for the study. The data were collected with the help of a structured interview schedule. It was found that women took no special food or avoided any food during pregnancy. Majority of women referred to the practice of keeping a piece of iron near the cot of woman after delivery to ward off evil spirit. First food given to baby was glucose. First feed of breast-milk was given to the new born, 2-3 days after delivery. (Punia, S. et al., 1997).

6. A study was conducted by SCERT, Mizoram on the utilisation of resource persons trained in population education, for creating awareness among school teachers about population issues. The findings of the study are not encouraging. The trained resource persons did not feel committed to the task of reorienting other teachers. They also did not have extra time to spread population education among other teachers. The study highlighted that selection of resource persons cooperation among various concerned departments, good reading materials and continuous updating of resource persons may help in better utilisation of resource persons (SCERT, Mizoram, 1995).

GENERAL COMMENTS ON RESEARCH IN POPULATION EDUCATION

Research has been a weak link in the Population Education Project at all levels, i.e. school, post-

literacy and continuing education and higher education system. Evaluators and reviewers of the research in population education from time to time have brought this discouraging fact home. Some 12 years back in 1989, the Committee of the Mid-term Review of Population Education in Higher Education had commented on the quality of research in population education in higher education, (Report of Mid-term Review, 1989). Evaluation Report of Population Education Programme in higher education also pointed out: "Research and evaluation have been comparatively weak areas of the project", (1992). Research was reported as a neglected area in the Evaluation Report of 1997 (UNFPA 1999). Research has been identified as a weak area of the Population Education Project implemented through the NCERT and it was observed that research has not been an integral part of population education in Post-Literacy and Continuing Education (UNFPA, 1999).

It was generally felt that the research in all the Population Education Projects was inadequate as well as of poor quality. Most of the evaluation studies were done by external agencies (UNFPA, 1999). Need to involve selected project personnel and build their capacities for conducting research was felt.

Research gaps identified were: "Problems of researchers related to training, inadequate competencies, insufficient interactions between departments, poor credibility of researchers, overlapping research, inadequate facilities, lack of code of conduct and inability of libraries to provide complete information (Seth, Mridula, 1999).

It was felt that, greater coordination was needed in the research activities of all the Population Education Projects. Efforts to bring about coordination in the research activities of Population Research Projects culminated in the organisation of national inter-sectoral consultation by UGC and UNFPA held in late 1999. The participants included representatives of higher education, school education and continuing education, some experts in the field and the representatives of UNFPA. The purpose of the consultation was:

1. To improve the quality of Population and Development Education Project activities through meaningful research, and

2. To promote inter-sectoral coordination in research (UNFPA, 1999).

During the consultation, the status of researches conducted through three projects in higher education, school education and adult and continuing education were reviewed. The constraints were identified and need for good quality research was emphasised.

One important criticism about research studies carried out in population education projects is that a very large majority of them are based on quantitative research design in which data are collected with the use of structured questionnaire, some times self-administered, some times administered by trained interviewers. Most of the researches, on the other hand, carried out by researchers outside the field of population education, projects on human sexuality, adolescence education have used qualitative methods. It is the experience of the researchers in the field of sexuality and reproductive health including that of adolescents is that qualitative research, free-from data-gathering methods could produce useful information about sexual practices for intervention programmes (Pelto, P. J., 1999).

One serious problem associated with questionnaires, self-administered or otherwise is a high rate of non-response, which may render, the interpretations meaningless. In an otherwise good study of Truck Drivers and Helpers plying on Mumbai-Bangalore highway, interview-schedule method of asking questions yielded non-responses on income per month (11 percent) and habits (10 percent). For questions on sexual behaviour such as age at first experience of sex the non-response rate was 46 percent and for question on "why condom is used?" it was 35 percent (Khadilkar, Vidya, 2001).

An impact study on integration of population education in adult literacy programme carried out in Maharashtra and Andhra Pradesh indicated a very high rate of non-response for the question on knowledge of various methods of family planning. For example, non-response rate among women respondents was more than 60 percent for the question on knowledge about Nirodh and that among male respondents on the question of knowledge about tubectomy was 86 percent (Gadam, S., 1998).

Getting disillusioned with broad-based surveys, the researchers are now turning to small-scale qualitative methods as a means of getting more systematic information about actual sexual practices among various segments of the population. There is a need to try out other methodologies to conduct in-depth studies in culturally sensitive issues concerning adolescence (UNFPA, 2000).

It was found that researchers need training in reporting of findings, presentation of statistical tables and also preparation of abstracts.

Use of Secondary Data

Researchers in population education projects can also carry out meaningful researches by utilising secondary data. The two National Family Health Surveys conducted in 1992-93 and 1998-99 provide a wealth of information on several useful topics. Individual level data for each state can be obtained from the International Institute for Population Sciences, Mumbai. The RCH studies provide district level information on various aspects of Reproductive and Child Health Care. The data from both the sources can be used for studying reproductive health of the adolescents.

Population census is the primary source of basic national population data required for economic and social planning, research and administrative purposes. Most recent census – the first one in twenty first century was carried out in 2001. Census provides data on various demographic, social and economic aspect which can be used for throwing light on various social and economic aspects. For example, the data of 2001, provided the information on the numbers of men and women in India and the states. Using this information, the researchers could discuss the relative numerical position of men and women, the declining child sex-ratio (number of girls per 1000 boys in 0-6 age groups) and underlying factors (Economic and Political Weekly, Sept. 8, 2001). Census data are available

for the smallest administrative unit (village). It is suggested that researchers in population education may use data available from secondary sources.

SUMMARY AND CONCLUSIONS

The preceding analysis of Population Education Research in India, covers the period from 1993 to 2000. In all 250 research studies have been identified. However, this list is not exhaustive. It was observed that there is a tremendous change in the pattern of studies conducted during 1981-90 and those in 1993-2000. The thrust area during the period shifted tremendously to reproductive health of adolescence, gender equality (sensitivity). This is reflected in the pattern of studies conducted during 1993-2000.

In Post-International Conference on Population and Development (ICPD) after 1994, the adolescents, the so far neglected vital section of the population, received attention. As such in the reconceptualised concept of population education, the adolescence education/sex education figured prominently. The emerging concerns of the population education programme were:

Adolescence education, drug abuse, AIDS education and ageing. As such studies on researches on these topics accounted for more than 70 percent of the researches on population education.

The researches indicated that although there is general awareness regarding STDs, HIV/AIDS, there is a lot to be done in the field of attitude towards education on sexuality among parents and to some extent among teachers. It was also observed that adolescents in general want education in sexuality. The studies also indicate that our knowledge-base concerning the needs of adolescents regarding reproductive health matters is scanty and patchy. There is a need for more focused, qualitative studies in these sensitive areas. It is also suggested that researchers in the field of population education may use secondary data for research.