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OF HUMAN NUMBERS AND HUMAN NEEDS

by

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Mr. President, Mr. Chairman, Professor Adhikari, Members of the Indian Statistical Institute and distinguished guests, I am honoured by your asking me to give the fifteenth Convocation Address of an Institution so renowned as the Indian Statistical Institute, Calcutta. I am deeply grateful.

The Oracle Hath Spoken

238 million people in 1901, 438 millions in 1961 and 683 millions in 1981 - that tells a story. India's population has doubled since independence. 200 millions were added in a period of 60 years from 1901 to 1961, the next 200 millions were added in a span of 17 years. There has been a net addition of 135 millions since 1971. Some feared it might be more, some hoped it might be less. The population growth rate for the decade 1971 to 1981 was 24.75 per cent which is only 0.05 per cent less than that recorded in the previous decade 1961 to 1971.

The death rate has come down from 19 per thousand in 1971 to 14.8 in 1981. Life expectancy at birth went up from 46 years in 1971 to 54 today; infant mortality came down from 135 to 127 per thousand live births. The literacy rate has gone up from 29 per cent in 1971 to 36 in 1981. These are notable achievements. The female to male ratio, although distressing, shows an upturn for the first time in this century, standing to 935 women per thousand men now as compared to 930 women in the 1971 census and 972 women at the turn of the century. There are, of course, wide variations in the ratio of women to men across the different states, just as there are variations in other demographic parameters, the two extremes

being represented by Kerala with 1,034 women per thousand men and by western Uttar Pradesh and northern Madhya Pradesh with less than 850 women per thousand men. Substantial differences in birth rates exist between India's South, West, North-Western States and West Bengal on the one hand and on the other, North-Central India with nearly 40 per cent of India's population.

A Tale of Shifting Targets

And so the story of the census for 1981 goes on and more detailed analyses will follow soon. Clearly, much has been accomplished, the birth rate coming down steadily from a level of 45 during 1956 to around 33 today, roughly at a rate of 1.0 in every two years on the average and credit must be given for this to the Family Planning Programme in the country[1]. But the declines in birth rates were not as fast as were anticipated. It is a tale of shifting targets. The Fourth Five Year Plan aimed to reduce the birth rate from 39 per thousand in 1969 to 25 per thousand in the next 10 to 12 years. This objective was also reiterated[2] in the Fifth Five Year Plan, so as to bring the birth rates to 30 per thousand by 1978-79 and 25 per thousand by 1983-84. In actual fact, the birth rate in 1973-74 was about 35 per thousand and now in the year 1981 still remains around 33. Doubts have been expressed[3] if a crude birth rate of 30 would be achievable even by mid-1983. The performance over the years has been rather uneven with dips and spikes of vasectomies and tubectomies, with tubectomies now up and vasectomies down. The intra-uterine device (IUD) which started with high expectations having peaked at 0.9 million insertions in 1966-67 tripped steeply with the advancing years.

Mothers, Infants and Young Children

But what do these figures tell us in terms of the human agenda? They tell us that the health of mothers, infants and young children requires urgent action. The unfavourable female to male ratio is an eloquent testimony to the social conditions working against the welfare of women. Maternal mortality rates are high. Infant mortality rates, though declining, are also high. Too many pregnancies, too closely spaced and too early in

reproductive life leave behind washed-out, anaemic mothers with high mortality and morbidity rates. Teenage brides and young mothers experience the highest maternal mortality rates[4]. All modern methods of contraception are safer than pregnancy and child birth[5]. We need to develop forthwith a framework for systematic and continuing action on behalf of mothers and children. Mother and child oriented population strategies are urgently required.

Characteristics of the Indian Mortality Profile

The crude death rate has come down steadily from the estimated level of 29 in 1946 to 14 today, again by slightly less than 1.0 every two years on the average. This is commendable. However, it is difficult to attribute the fall in death rate to any single factor, nor to apportion the contribution made by each factor. The Malaria Control Programme, the immunisation programme and to a lesser extent, the provision of curative services through the net-work of primary health centres may have played a role. It has been suggested that the pace of reduction in death rate in the future might be slower than what has been realised during the past three decades[1].

A characteristic feature of the Indian mortality profile is that during the past three decades the decline in adult mortality seems to have been proportionately more than the decline in infant and child mortality which is quite contrary to the health history of developed countries where the decline in mortality in the 19th and early 20th century took place first amongst infants and children and then successively among older age groups[1]. Environmental improvement and rising economic and educational levels in those countries were associated with reduction in mortality and morbidity in children. The level of infant mortality corresponding to the death rate of 14 was around 50 in the western countries while in India it is around 120.

The lesson is clear. Health and family planning are functions not only of the health care system, but of overall integrated development of society - cultural, economic, educational, social and political[6]. Integrated overall development including family planning, nutrition,

environment and health education and the provision of adequate health services for the poor and under-privileged and women and children are the dimensions of a National Health Policy.

Family Planning and Primary Health Care

Family Planning activities have to be closely integrated with Primary Health Care. The female basic health worker, the community health worker and the trained indigenous *dai* should provide a net-work of family planning services through the Primary Health Care approach. Success in family planning is achieved economically, rapidly and enduringly through integrated health and family planning services at community level. The Planning Commission's Working Group on Population Policy[7] recommended that population influencing policies such as improved health care, better water supply and nutrition must be coupled with population responsive policies such as education and employment. There must be a high degree of synergism between population and development goals. The goal of net reproduction rate of one by the year 2001 should be co-terminous with the goal of health for all by the year 2000. On the 19th of February, the Prime Minister gave a call for putting the family planning programme on a sounder footing and stated that all sectors of the society including all development departments of Government should be involved.

The Working Group suggested the target of a net reproduction rate of one by the year 1996; to reach this goal, the percentage of eligible couples to be effectively protected by modern methods should be around 60 per cent as against the present 23 per cent and the projected 30 per cent of effective protection by the end of 1983. This will involve a programme of protecting 84 million eligible couples by the year 1996. The stupendous nature of the problem is obvious and serious doubts have been expressed about the prospects of achieving this target[3]. The Group also recommended a differential programme for different categories of states and, in general, a greater emphasis on spacing methods as against permanent methods. It was also suggested that inter-personal and small group communication at the village level is absolutely essen-

tial. The provision of health care with special focus on mothers and children and female education are likely to bring about major motivational impact.

Health and Development

Human development is central to the developmental process. Health is both an essential pathway to development and a fruit of development.

Death rate from tuberculosis dropped from 200 per 100 thousand of population in 1900 to 70 in 1930's in the USA. That was before lung collapse therapy was widely prescribed. The tuberculosis death rate had further declined to 30 per 100,000 before streptomycin became widely available in 1950. However, the developing world today cannot wait for such a slow rate of health development consequent upon economic growth[8]. There is no doubt a good correlation between development and health status. However, by providing basic health care for the mass of the people and improving their nutrition, a remarkable effect upon life expectancy and other indicators of health can be obtained even in the absence of impressive industrial economic development. A recent study has shown that major improvements in health are possible at costs that are affordable even by the poor nations of the world with able leadership and well designed and effectively operated projects[9]. In order to deploy severely limited resources, it is necessary to direct them to the most needy segments of society - mothers and children, the poor and underprivileged. Also there has to be appropriate forms and techniques of health care. Each level of care must be supported effectively and sympathetically by a higher level.

The nexus between Food Supplies and Population

The population problem is a multi-dimensional one. The food: population nexus, feeding the rising numbers, is undoubtedly of critical importance,but population impinges upon a variety of other sectors and goes beyond Malthusian formulation into housing, health services, education, environment, energy resources, urban pressure *etc.* Rapid population growth drives poor people from rural to urban

areas in search of employment. In 1980, 16 of the world's 26 cities with more than 5 million population were in the developing countries and by the end of this century, 45 of the 60 cities of that size will be in the developing countries[8].

Population and National Economy

Self-sufficiency in food production and substitution of the bulk of imports by indigenous production are the favourable features of the Indian economic scene today, thus achieving a measure of economic self-reliance[10]. However, the disturbing features are rising unemployment and inequity in the distribution of income and assets. The present poverty population of India is estimated at 309 million. The total number of rural poor continues to grow by about 5 million per year because of the overall growth of the population. In spite of massive legislation, redistribution of land has not been very substantial. While grain production per capita is rising, grain consumption per capita is falling[10]. The persistent lack of purchasing power of the poor is the main reason creating a situation of food surpluses in the midst of mass malnutrition. There are several strategies that are now being employed for the reduction of rural poverty and unemployment on a massive scale. These are acceleration of irrigation, the Employment Guarantee Scheme, the Anthyodaya, the Small Farmer Development Agency, the Food for Work Programme and the Operation Flood[10].

Population in the Framework of Social Development

The Bucharest Conference in 1974 conceptualized population within the context of social and economic development. The importance of education, the status of women, health services, food supply and equality of economic opportunities, all these are recognised as important factors in resolving the population problem and population itself is regarded as a determinant of development[11].

In line with this approach to the population problem, family planning activities are being integrated into the basic health systems. Communication and education programmes creating awareness of population issues have

gained importance. Population education programmes need to be developed in school curricula at primary and secondary levels. Population issues, family life, reproduction education and basic cultural values need to be synthesized[11]. Population education should become the concern of a number of extension activities. The active participation of women in community and national development, programmes aimed at adolescents, the elimination of child labour, equal value of male and female children, equal access to educational opportunities, social justice, all these are activities that should provide the foundation for family planning. The endogenisation of demographic variables in long-term development models is of high priority[11].

THE TECHNOLOGY CANVAS

Existing Technologies

Where motivation is high and the infrastructure for delivery of services is adequate, currently available contraceptive methods are effective. By using existing technologies in a purposeful manner, it is possible to bring down birth rates over a relatively short period of time.

Reduction of infant and child death rates and maternal mortality rates is of inestimable value to any birth planning programme. Pills, IUDs, voluntary sterilization and medical termination of pregnancy as a backstop, constitute a rather limited array of contraceptive methods by which China has achieved spectacular results[12].

We must broaden the range of choices of methods of contraception. Preservation of privacy in a village home-setting is essential for the success of any contraceptive method. The use setting is crucial. The IUDs are an important method of fertility control. It is said that there are more IUDs in use in China than in the rest or the world combined. The copper-T 200 which is being introduced into our national programme today consists of a plastic T with a coil of copper wire around the vertical limb. Menstrual blood loss is significantly less with copper-T 200. The oral contraceptive pill is being used in extremely limited quantities in India. There are only

84,000 pill users in the country. ICMR studies indicate that female sterilization done during the post-partum period using modified Pomeroy's technique is the safest procedure as compared to other techniques.

Vasectomy is a safe and reliable terminal method of contraception. Recently, Dr. Nancy Alexander warned men about the dangers of vasectomy based upon her work in monkeys where she found that vasectomy had increased the risk of atherosclerosis. Both rhesus and cynomolgus monkeys were used and there was increase in arterial plaques in the vasectomised monkeys[13,14]. However, a study undertaken by a Boston University group showed no higher incidence of non-fatal myocardial infarction among 4830 vasectomised men[15]. A comprehensive study of this issue is now being conducted by the ICMR in Bombay. The hypothesis remains as yet unconfirmed in human populations.

A couple's decision about timing, spacing and number of births is influenced by a wide range of cultural, social, economic and psychological variables. With a better understanding of such issues, policies and programmes can be made more responsive to what people want. The message of Family Planning will not take root unless it is oriented toward the perceived needs of individuals and families. What ornithology is to birds, so is demography to people. Psycho-social research in family planning aims at identifying factors affecting birth planning decisions so that fertility regulating methods and the service system through which they are provided can be made consonant with the knowledge, cultural values, beliefs and behaviour of consumers.

Technologies in the Offing

Although we possess effective methods of contraception today, these methods still suffer from several drawbacks such as side effects, low rates of continuation and significant metabolic consequences. It is essential therefore, to continue the search for newer contraceptive agents that are safer, more effective and more acceptable; something that works, something that is accessible and low cost, is long acting and is reversible.

In the short run, it appears unlikely that there will be a totally new fertility regulating agent that will come to our aid. The question of short-term and long-term toxicity, ethical considerations involving the use of drugs and devices on human beings, and the rising costs, all these militate against the rapid development of new contraceptive technology. The inadequacy of the existing technologies is obvious by the high discontinuation rates for common methods such as pills (80 to 85 per cent at two years) and IUDs (70 to 80 per cent at two years).

There are prospects of new intra-uterine devices that would reduce bleeding and pain associated with current devices and increase the life span of the device to something like 15 to 20 years or more. Newer long acting hormonal contraceptives taken orally or by injection are also an urgent necessity. Vaginal rings are an improvement on current barrier methods. A non-surgical method of sterilization which could be performed by non-physicians on an out-patient basis would be a major logistic and economic advance for family planning. Chemical occlusion of Fallopian tubes has a demand in the country. A drug for termination of pregnancy which can be administered on an out-patient basis or self-administered would facilitate provision of abortion services. The potential of prostaglandins for inducing abortion by stimulating uterine contraction and cervical dilatation in both the first and second trimesters of pregnancy has been established. The search continues for prostaglandin analogues with higher efficacy and lower rates of side-effects that can be administered by intra-muscular, vaginal and oral routes. There is a distinct possibility of identifying new chemical structural types effective in fertility regulation with perhaps new mechanisms of action from indigenous plant sources. One of the most obvious gaps in current technology is the absence of drugs that could be taken immediately after intercourse to prevent pregnancy.

There is little variety of methods of birth control for the male. We are limited to condoms, coitus interruptus, periodic abstinence and vasectomy. There is great concern that the burden of birth control presently falls mainly on women due to limited choice of technology for man. Although this is sometimes attributed to male

chauvinism, it is in part due to the greater difficulty of regulating male fertility. The problem in the male is the small number of links in the reproductive chain of events compared to the number of vulnerable points identifiable in the female. There are two approaches, the intra-nasal administration of steroids and birth control vaccines, both of which are being developed by Indian scientists which hold promise for the future.

Beyond Technology - Need for a New Social Ethic

In our attempts to build a world that is ecologically sustainable and socially equitable, there is an urgent need to modify our life styles, our behaviour patterns and our reproductive habits[16]. The world's population today is exerting great pressure upon the earth's biological systems and energy resources. We all recognise Malthusian portents but I am not sure we have a full comprehension of the fact that population pressure can outstrip the regenerative capacity of biological systems of this planet. In other words, we need a new social ethic as Lester Brown says[16], which stipulates that the numbers of people on this planet and their aspirations must match the resources and capabilities of this planet. The ethic hormonises human numbers and human needs. Basic human needs, as George Verghese said, must be fulfilled by basic human deeds. The problem, to my mind, is resolvable by sustained development and improved village level services.

Our food production and ability to mobilise and distribute food in a short period of time in times of drought or famine is one of the remarkable achievements of our country in recent years. The fulfilment of basic human needs remains the essential objective of development and not merely statistical definition of economic growth goals or demographic goals. The economic goals must be coupled with social goals. The World Health Organization describes its goal of "Health for All" as one that enables every person to lead a socially and economically productive life.

It is necessary to evolve a set of new ethical principles. The educational system especially the institutions of higher learning have to engage in deep intros-

pection and provide a new orientation to their pursuits. The involvement of these institutions in the initiation of a process of social change is essential. A gigantic educational effort is needed. Information must be provided. There are limits to material growth which if continued unchecked can lead to our "being possessed by our possessions"[16]. Lester Brown in his book on "Twenty Ninth Day" talks about voluntary simplicity in life styles as a sign of achievement of personal maturity and as something like rising to a higher level of humanity[16]. Gandhiji went much farther. In his famous speech at Guildhouse Church on 23rd September, 1931, on the subject of voluntary poverty, Gandhiji said: "I can only possess certain things when I know that others, who also want to possess similar things, are able to do so....The only thing that can be possessed by all is non-possession.... when you dispossess yourself of everything you have, you really possess all the treasures of the world"[17].

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