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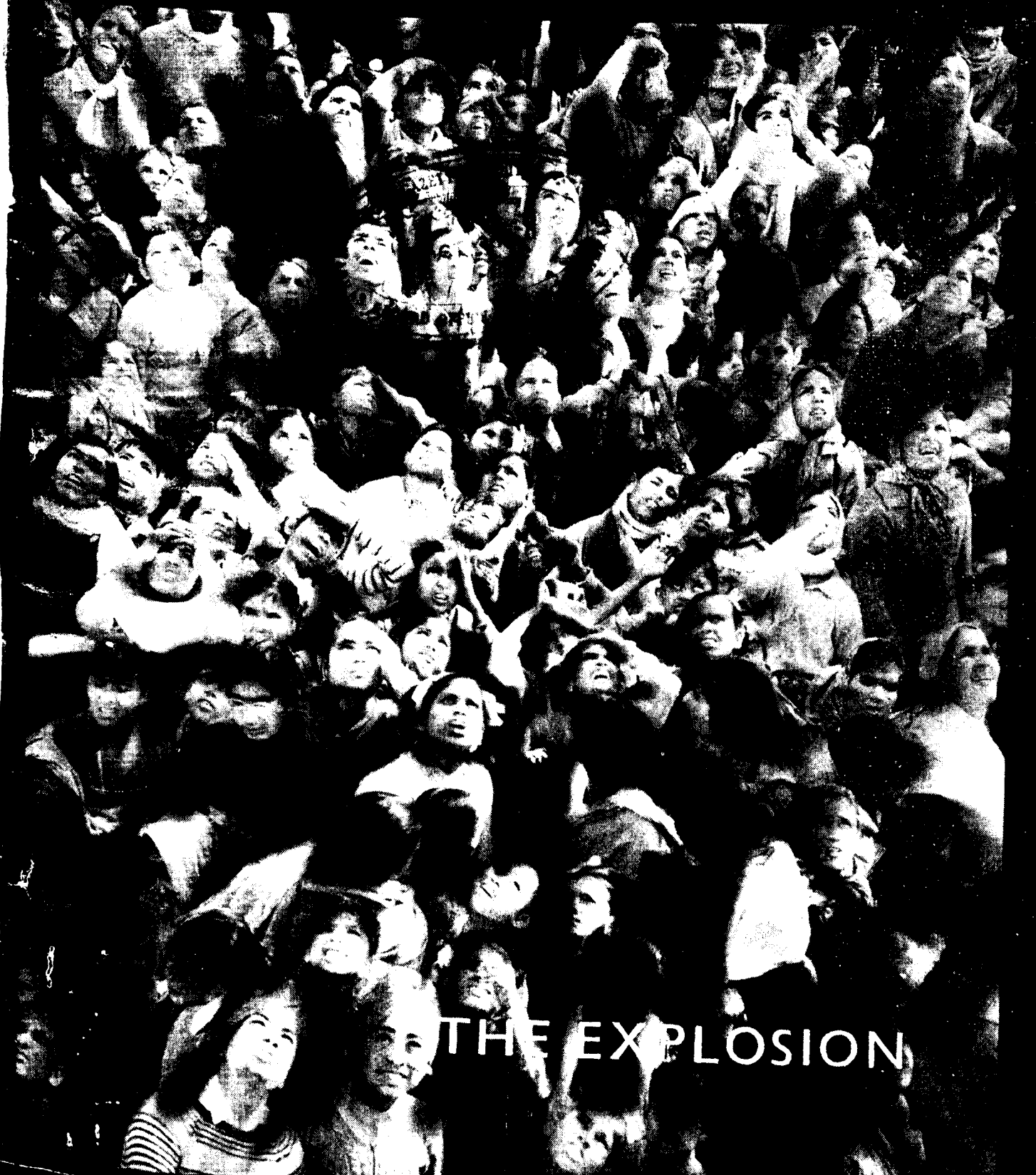
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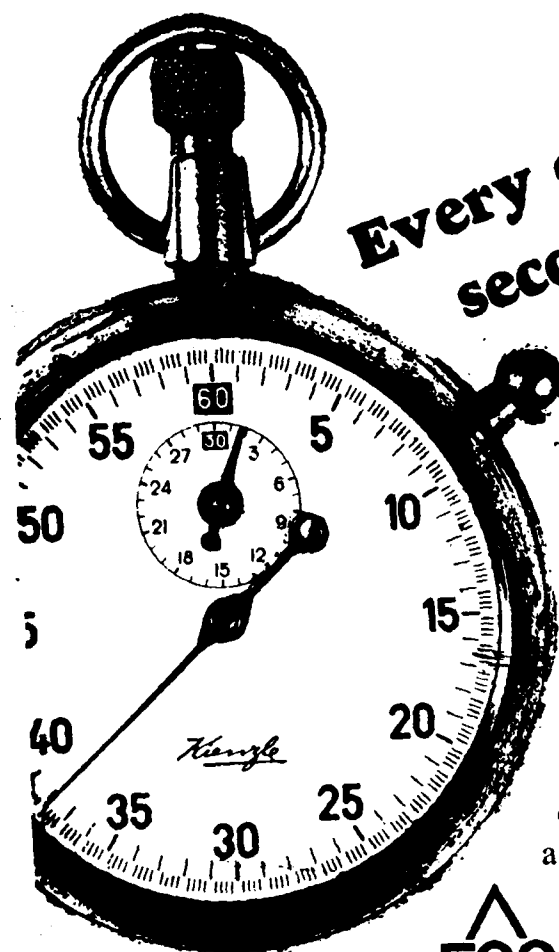
TWELFTH YEAR

18

SEPTEMBER 15, 1968



THE EXPLOSION



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seconds a baby is
born in India**

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by Maulana Azad Meo

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is not restricted to express-
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LEST WE FORGET

Time is not with India, but against it. With the in-
crease in population we have to run fast to stand still.
—Indira Gandhi

IN THIS ISSUE

GRAVER THAN AN INVASION Jaya Prakash Narain	2
TOWARDS A PEOPLE'S PROGRAMME Dr S. Chandrasekhar, Union Minister of State for Family Planning, thinks that the Family Planning Programme, which is now Government's, should ultimately become people's own.	3
LIFE BEGINS AT TWENTY Dr Ashish Bose	8
DEMOGRAPHY AND DEVELOPMENT Dr S.N. Agarwala	11
A TARGET-AND TIME-ORIENTED PROGRAMME Govind Narain	14
TELLING THE MILLIONS Frank Wilder, Ford Foundation Expert on Mass Communication, talks about India's new strategy of carrying the message of family planning to the people.	18
CROSSING THE MENTAL BARRIER G.K. Mathur	26
WORLD'S BIGGEST DRIVE Dr Dipak Bhatia	27
MORE PEOPLE, LESS FOOD Dr J.N. Sinha	29
SMALL FAMILIES : BETTER LIVING K.C. Sehgal	34
A MINOR OPERATION Dr A.K. Poddar	37
STERILISING THE WOMAN Dr Leela Pathak	39
SCHOOL AS PROPAGANDA MEDIUM I.C. Dhillon	40
ROLE OF RESEARCH B.L. Raina	41
EDUCATION AND POPULATION GROWTH K.B. Suri	45
INDIA AND LATIN AMERICA Hartirath Singh	53

PICTURE CREDITS

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GRAVER THAN AN INVASION

JAYA PRAKASH NARAIN

I am very much concerned with what has been called the 'Population Explosion' in our country. We have already crossed the 500 million mark. Dr. S. Radhakrishnan has described this as a danger signal which we can ignore only at our own peril.

As the Prime Minister has said, planning in the face of such terrific rate of population growth is like building a house on a ground which is being washed away by floods all the time. I would say it is like building on sand. Whatever gain is made through planning and industrial and agricultural development is eaten up by the growth in population. Consequently, there is no appreciable rise in the standard of living of the masses. In fact, I am afraid, there is a deterioration in the standard as one goes lower down in the scale of social structure that we have.

This is a problem which, in many respects, is more serious than any other problem, any other calamity, or any other danger that we might face. It is graver than a foreign invasion. We immediately close our ranks in the event of a foreign invasion and a new spirit, a new enthusiasm and a new determination surges up to fight for the nation. But, the great calamity of galloping population growth now overtaking us is going completely unnoticed.

People do not run to the rescue of a family which has too many children to support because it is not supposed to be a calamity even though these children may be going naked and hungry. It does not arouse the kind of sympathy or spirit which a foreign invasion, for instance, does. Yet, in a few years' time, if the population growth remains unchecked, we will find ourselves in a situation out of which only God perhaps will be able to rescue us. Imagine a thousand million population, a hundred crores.

There are people who believe in God and they say that God has created us and He will also provide the food for us. Well, He does not seem to be doing so. In any case, I do not think people who believe in God use the intelligence which God has given them.

Those of us in the country who are opposed to the present Family Planning Programme of the Government of India for moral, spiritual and religious reasons, or for any other reason, should look up. Fortunately, from my own experience I have found that people, irrespective of caste, community, language or religion, are, by and large, not against it. They are only ignorant. During the Bihar drought, women from long distances came on their own to the medical relief centre the North Eastern Railway had opened in one of the most backward areas and enquired if it was possible to prevent babies from being born.

According to a Sanskrit saying, God resides in the land where women are worshipped. But we know the position of women in our country. They have to combine within themselves the functions of a mother, a wife, a cook, a washerwoman, a sweeper and a servant. Men do not come forward to help them. They only go on producing more and more children even though they do not want them, loading women, who already lead a sickly life, with more burden than they can bear.

Birth control has been described as a measure which will usher in a new age for the women of India. I believe in this. Instead of merely slaving in the name of family, love, wifehood and motherhood, women gain better health, self-respect and leisure. I, therefore, support this movement will all the emphasis at my command.

This is an edited version of a talk given by Mr. Narain recently at the Maulana Azad Medical College, New Delhi.

Family planning is one of the many aspects of the nation's plans for total development but it is one of the most important.

Motivating an individual, a couple or a group to adopt a particular family planning method is still an unsolved problem in social psychology. We have not so far been able to reach all the rural couples with the message of family planning.

In the last year and a half, India has been able to get considerable international assistance, which implies a common concern over the population problem and sharing of the available scientific knowledge.

Maharashtra, West Bengal, Orissa, Madhya Pradesh and Punjab have topped the list of States in combined performances of sterilisations and I.U.C.D. insertions. During the last year Maharashtra did over five times the number of sterilisations done in 1966-67 and West Bengal more than eight times. In I.U.C.D. insertions Punjab and Haryana continued to occupy the first and second places. Except Orissa and Rajasthan, all other States showed a decline in I.U.C.D. insertions last year. Lowest in the rung were Bihar, U.P., Rajasthan and Assam.

Both sterilisation and I.U.C.D. insertion should be given equal importance.

The Programme, Now Government's, Must Become People's

Dr. S. CHANDRASEKHAR

INDIA's cultural, economic and social development cannot be achieved merely by family planning. Family planning is an integral part of the country's health, medical and social welfare services. And as such it is only one aspect, however important, of the nation's overall plans for total agricultural and industrial development. When we produce more food, goods and services and reduce the number of mouths, the per capita consumption is bound to rise and the lot of the average citizen is bound to improve.

However, excessive rates of population growth are perhaps the greatest single barrier in the path of overall planned economic and social development in the less developed countries. In some countries, the population is increasing every year by well above three per cent. At this rate the total population can double within a generation and multiply eighteen-fold within a century. An underdeveloped or a developing country today is, almost by definition, an overpopulated country—overpopulated in relation to the total available agricultural land, the rate of industrialisation and the level of technical know-how.

But fortunately most of the less developed countries have become aware of the incompatibility between a desire for a higher level of consumption and higher standard of living and large families. India's case is an excellent example. The Government of India have been aware of the problem of rapid population growth for nearly a decade and a half although scholars outside the Government have been aware of it for more than a quarter of a century. In the last few years India has pursued, as a major policy objective, reduction in the growth rate of the nation's population.

Family planning must not merely be a Government programme. Eventually, within a decade or two from now, it must become a people's programme, as in the advanced Western countries and Japan, where the Government does not have to tell the citizens how many children a couple should or should not have. In a democratic, free and responsible society a couple must have the freedom and facilities to have the number of children they want so long as they can afford to bring them up as responsible individuals with all the basic requisites of a civilised and cultured life.

The dimensions and magnitude of India's population problem are fairly well known. India's population is growing at the

Dr. S. Chandrasekhar is Union Minister for Family Planning.

rate of slightly over 2.5 per cent per year. And at the current rate of increase it may double itself in the next twenty-eight years, reaching the incredible figure of one billion (thousand million). The major cause of this high rate of growth is not so much the high birth rate as the increasing and relative success, in terms of Asian standards, with which India's health and medical services have been implemented in the last three Five Year Plans. Major communicable diseases like cholera, malaria and smallpox have been nearly brought under control and measures to eradicate them are now being implemented. And in response to these relatively improved health conditions, life expectancy has risen from 32 years in 1950 to 51 years in 1968.

MOTIVATION SOMEWHAT INTRACTABLE

The Family Planning Programme is still confronted with many serious problems. Of these, only two, motivational efforts and mass communication, can be discussed here. How to motivate an individual, a couple or a group of people to adopt a particular measure for an individual's or group's own benefit is still an unsolved problem in social psychology. And when motivation is about something as intensely personal and subjective as family planning, the problem becomes somewhat intractable. Educating an uneducated adult, be it husband or wife, on the need to adopt the small family norm is no easy business.

To motivate people in certain well-known familial situations in our country, a few broad guidelines have been evolved. There is no doubt that these can be improved and expanded but here they are:

- 1) dissatisfaction with poverty and low levels of consumption. If one is satisfied and even happy with one's lot in life, nothing very much can be done about this;
- 2) a couple must be made aware of the incompatibility, in the present economic context, between a large family and a desire for a higher standard of living;
- 3) once a felt-need for family planning facilities is created, people will accept such facilities when provided;
- 4) service and supplies must be brought to the people's door-steps;
- 5) people should be approached through the media they respect and with which they are familiar and through their recognised and trusted leaders without offending in any way their cultural, religious or moral susceptibilities;
- 6) parents alone must decide on the number of children they can have, depending on their obligations to their children and the availability of resources for meeting such obligations;
- 7) the total man in the total environment can be approached for planning his family through integrated health, medical and social welfare services; and
- 8) a change in attitudes, values and behaviour can be brought about effectively only if the people are convinced that such a change is in their personal interest, is accepted and approved by their peers and is generally socially acceptable.

This leads us back to the first two items on the desire for improvement and progress.

The trained family planning worker has all these factors before him or her. But it takes time to work out all the implications of these guidelines in one's work in motivating couples.

REACHING RURAL COUPLES

The measures regarding family planning advocated by the Government have to reach all the couples in the reproductive age-group. They must be given literature (if literate) about the need for the small family, and, if motivated and willing, contraceptives and other supplies.

Of the 105 million married couples in the country, 90 million couples are in the reproductive age-group. These couples are distributed over 17 States of the Union, 11 Union Territories, 335 administrative districts, some 2,690 towns and cities and 564,258 villages.

It is not difficult to reach the towns and cities, for they are fairly well-knit. In the urban areas there are schools and colleges, clinics and hospitals and literacy rates are high and radio sets are available.

But the villages pose serious problems from the point of view of mass media. And it is the 60 million farm couples, poor and illiterate, who need family planning most. Films, posters, hoardings, songs, dramas, talks, group discussions, have been organised but it is doubtful if we have reached *all* the rural couples with the message of family planning. We have yet to devise means of reaching all couples in the most remote, far flung rural areas. It is hoped that this problem will be solved soon.

SEVEN MILLION BIRTHS PREVENTED

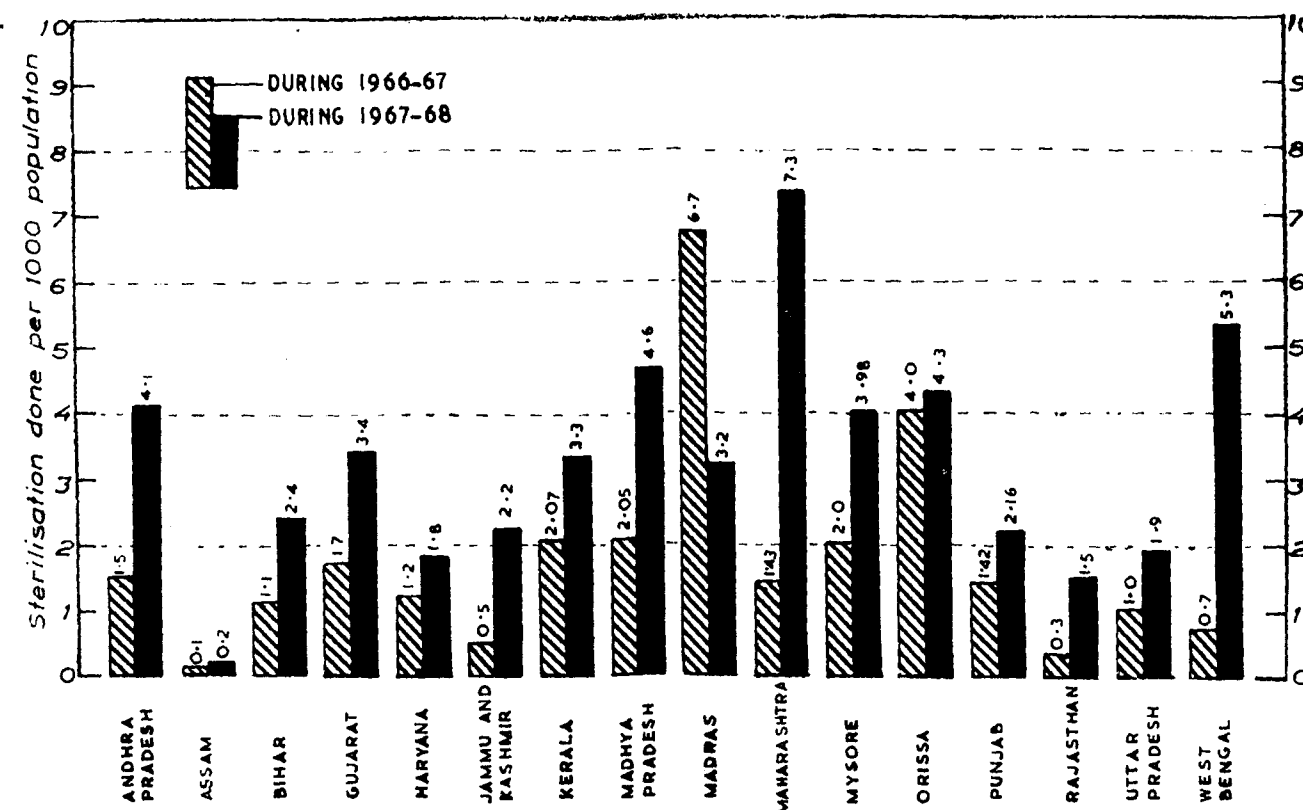
A survey carried out by the Central Family Planning Institute shows that one sterilisation prevents 1.5 births and one loop prevents 0.5 birth. Regular use of Nirodh over one year period prevents 0.125 births.

Based on these calculations, nearly seven million births have so far been prevented in the country. At the existing rate of acceptance of these methods, nearly 12.5 million births a year will be prevented by 1976-77.

In 1967-68 about 1.1 million births were prevented.



STATE-WISE STERILISATIONS DONE PER 1000 OF POPULATION IN 1966-67 & 1967-68



A welcome feature of the Family Planning Programme is that during the last year and a half I have been able to obtain international assistance, support and sympathy for the Programme. Though India has been receiving aid since 1961 from several countries and official (UN) and non-official international agencies, no significant sum was earmarked for the Family Planning Programme as such. The situation has changed for the better, and aid, large and small, has been forthcoming from the United States of America, Sweden, Japan and Denmark, and if current negotiations are successful, from Germany, Norway and the United Kingdom. The U.S. aid for the Programme totals more than \$ 30 million and Sweden has given so far \$ 2.2 million. Several foreign agencies and foundations have also helped the Programme and the largest aid in this area is from the Ford Foundation.

This foreign aid to family planning covers a wide variety of subjects—technical experts, commodities and supplies and training for our personnel both in India and abroad. A random listing would include vehicles, audio-visual equipment, paper, printing and mailing units, films, condoms, oral contraceptives, raw materials, training and research facilities.

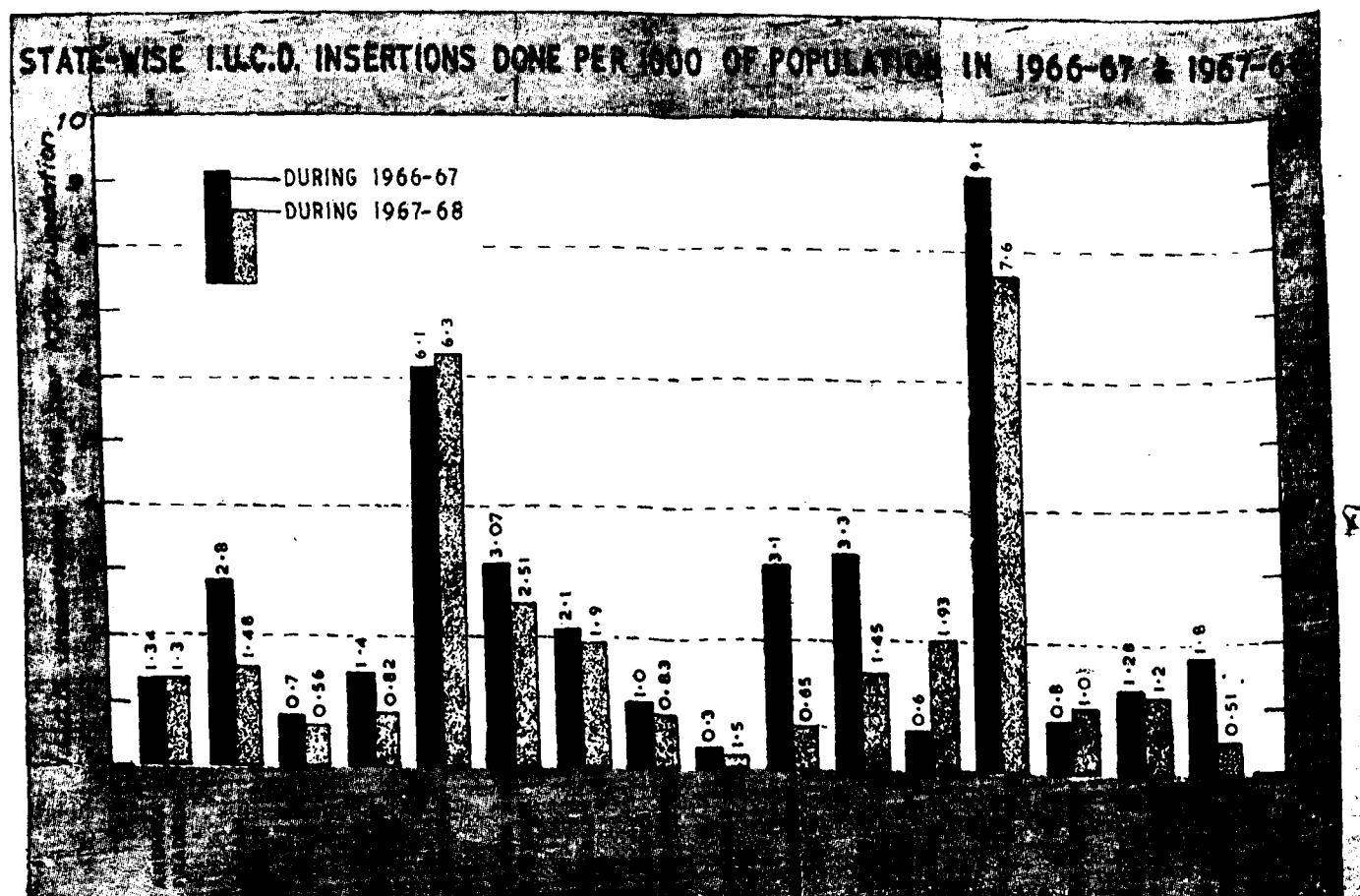
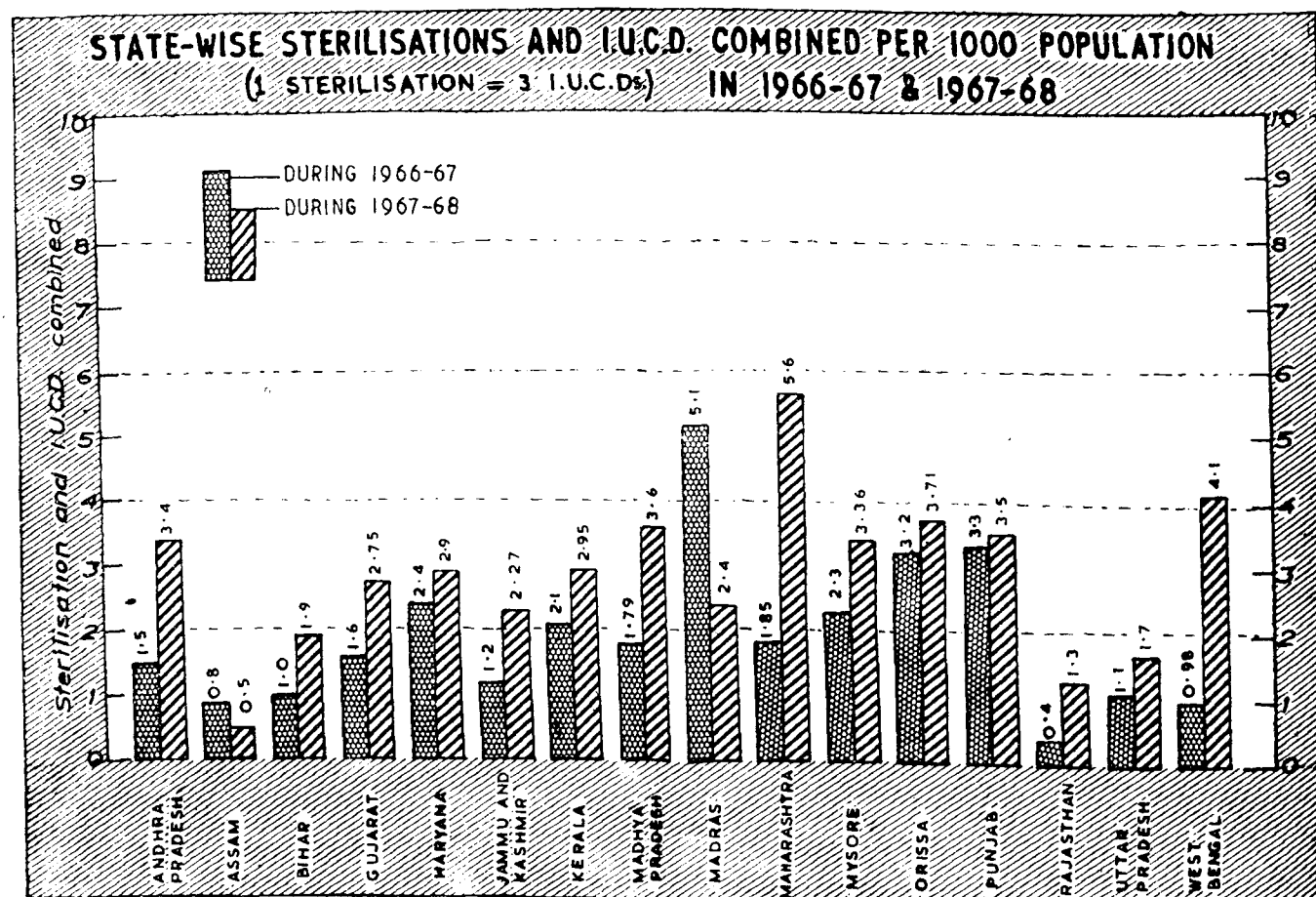
While in the last analysis, we shall have to stand on our own legs, international assistance is important not only in terms of money but in terms of the goodwill and sympathy that this aid implies. Thus the monetary aspect of aid apart, this wide international support implies a common concern over the population

problem, which is not confined to India, and sharing of the available scientific knowledge towards its solution.

STERILISATION AND I.U.C.D

As family planning is a State subject, the progress of family planning depends on the work accomplished in the various States. A rating of the performance of the different States of the Indian Union during 1967-68 has been made on the basis of the number of sterilisations (both vasectomy and tubectomy) or I.U.C.D. insertions done per thousand population. A combined rating has been obtained by adding the performance in sterilisation and I.U.C.D. taking three I.U.C.D.s as equal to one sterilisation. The accompanying tables show the ranking of the States according to performance in sterilisation, I.U.C.D. insertions and both combined in 1966-67 and 1967-68.

Sterilisations in States—Madhya Pradesh and Orissa ranked in the first five in both the years, with Madras, Kerala and Mysore yielding place to Maharashtra, West Bengal and Andhra Pradesh in 1967-68. The first rank in 1967-68 was secured by Maharashtra, which did 7.3 sterilisations per thousand population. It is a little higher than the highest performance of 6.7 per thousand by Madras in 1966-67. In 1967-68 all the States except Madras did much better in sterilisation as compared to the last year. The percentage increase in the number of sterilisations done in the individual



States varied from 11 per cent in Orissa to as much as 685 per cent in West Bengal. Only in Madras was the number of sterilisations during 1967-68 sharply reduced to nearly half of that in 1966-67. Maharashtra stepped up its sterilisation programme remarkably well. It did over five times the number done in 1966-67.

However, even better improvement was made by West Bengal, which occupies the second rank, as it did nearly eight times the number done in 1966-67. In that year its performance was very low, being only 0.7 per thousand of population. Jammu and Kashmir and Rajasthan, which did poor work in 1966-67, increased the number of sterilisations done in 1967-68 by nearly four and a half times. Despite the increase they continue to occupy quite low ranking in 1967-68. Kerala, Haryana and Punjab showed only small increase in 1967-68 and did not improve their ranking much. In fact, Kerala, which stood third in 1966-67, occupied eighth rank in 1967-68. In other States the number of sterilisations in 1967-68 increased to twice or thrice the number in 1966-67. However, the performance of Bihar, Uttar Pradesh and Assam continues to be quite low compared with that in other States.

I.U.C.D. Insertions in States—Punjab and Haryana continued to occupy the first and the second places. Jammu and Kashmir improved its position to third rank from fifth in 1966-67. Orissa and Kerala occupied the fourth and the fifth positions displacing Mysore and Maharashtra from the first five. In Maharashtra, the programme received a sharp setback. The number of I.U.C.D. insertions declined in 1967-68 by 78 per cent and the State occupied the thirteenth rank.

Except Orissa and Rajasthan, which respectively increased their performance to three times and one and a half time of that in 1966-67, when it was quite low, all other States showed a decline in I.U.C.D. performance in 1967-68. Haryana showed only a minor increase. Uttar Pradesh, Andhra Pradesh and Kerala showed minor decreases. In Punjab, Bihar, Madhya Pradesh and Jammu and Kashmir the decrease was around 15 per cent. In Gujarat, Assam and Mysore the decline was around 50 per cent. Madras, which did very badly in 1966-67, showed a further decline of 50 per cent. West Bengal, which did moderately well in 1966-67, came down by 70 per cent.

Combined Performance in States—The ranking of States according to performance in sterilisations more or less determines the combined ranking with minor modifications. Performance in I.U.C.D. was not so high that it could materially disturb the order. As in the case of sterilisation, Maharashtra, West Bengal, Orissa, Madhya Pradesh and Punjab are the first five in combined performance—only Punjab has displaced Andhra Pradesh due to its high performance in I.U.C.D. insertions. Other States have moved two or three places up or down in ranking. Lowest in the rung are Bihar, U. P., Rajasthan and Assam. Madras and Haryana were amongst the first five in 1966-67 but they have markedly slipped down in 1967-68.

Certain lessons may be drawn from the above analysis. First, there has been an overall decline in I.U.C.D. insertions in 1967-68, but Orissa and Rajasthan have substantially improved upon their past poor per-



formance. Eight more States registered small declines. In the remaining six States, the declines were much greater. This uneven pace of decline seems to suggest that the factors responsible for the comparatively lower performance in 1967-68 are not basic to the nature of the device. The reasons for I.U.C.D. not gaining in popularity would seem to be more organisational than technical. With improved standards of service, better pre-insertion check-ups and post-insertion follow-ups, and better follow-up services in cases of complaints and complications, it should be possible to increase I.U.C.D. insertions.

Secondly, the ranking of States according to performance in sterilisations and I.U.C.D. insertions is so very different. Some States have developed sterilisation more effectively than I.U.C.D. insertions and some others vice versa. It is quite possible that local preference may explain this position to some extent, but even allowing for such prejudices, efforts should be made to develop effectively both sterilisations and I.U.C.D. insertions. Each device has its own important place. While those States, which have stepped up their Programme in 1967-68 deserve to be congratulated, there is hardly any room for complacency. So much is yet to be done and so little has yet been achieved. But there is no doubt that with a continuing sense of devotion, the objective will be achieved sooner rather than later. A special word of exhortation may be addressed to Bihar, Uttar Pradesh, Rajasthan and Assam, which are still lagging behind. They should speed up the Programme in their States.

Although the progress made so far is good, it is not good enough from the point of view of the urgency and pressing nature of our problems. But at the same time it is realised that the population problem, by its very nature, cannot be solved overnight. Over a long period of time, through proper approach and strategy, the message of the small family norm has to be spread so that it becomes a self-generating process and people realise that their best interests—the welfare of their families and the health, happiness and prosperity of their offspring—lie in having small families.

"Life Begins at 20"

Mass Illiteracy and Early Marriage are the twin enemies of Family Planning

ASHISH BOSE

OLD at the age of twenty" is a Bengali proverb which describes the plight of girls who are married young and are overburdened with child-bearing and household duties. It is not very common to find in rural India girls married around 12 or 13 years old, by the time they are 20, are ready mothers of 2 or 3 children. Will these young mothers practise family planning? Most unlikely. Mass illiteracy and early marriage are the greatest enemies of family planning in India. And unless the modernising elements in our society find strength and support to the family planning movement, it is very unlikely that there will be a dent in the rural birth rate of India.

There are at least two pre-conditions to the successful implementation of a nation-wide family planning programme: (1) a rapid increase in the female literacy rate; and (2) a rapid increase in the average age at marriage of both boys and girls.

In India as a whole, the percentage of literacy among females (excluding the age group 0-4 years) was only 15.3 according to the 1961 census. The number of females who were matriculates and above was less than one per cent of the total female population. It follows therefore that the impact of modern mass media like posters, films, women's films, women's magazines, radio and television is severely restricted on account of the mass illiteracy among rural women. The question of sex education does not arise under such

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circumstances, which also handicaps the family planning movement.

When we say that for a successful family planning movement the age at marriage should go up, we do not have in mind the legal minimum age at marriage but the average age at marriage. Let us look into a few figures.

According to the computations done at the Demographic Research Centre of the Institute of Economic Growth, Delhi, in more than one-third of the total number of districts in India, the average age at marriage of females in 1961 was below 15 years. The details are given in the table below.

The table excludes Assam, Gujarat, Jammu and Kashmir, Madras, Kerala, Orissa and Punjab, where there was not a single district with an average age at marriage of females below 15 years.

MARRIAGEABLE AGE

There are several methodological aspects of the statistical computations of the average age at marriage in which we need not go into here, but the figures certainly bring out the fact that in large parts of India,

the average age at marriage of females has yet to come up to the level prescribed by the Child Marriage Restraint Act, namely, 15 years. This looks certainly odd in the face of the move to increase the legal minimum to 30 years. Let us, therefore, look into our data based on the computations done for each district in India. How many districts in 1961 had an average age at marriage of females which was below 20 years in 1961? The answer is indeed disheartening. As many as 303 districts out of the total of 318 districts, excluding those in the Union Territories, or 95 per cent of the districts had an average below 20 years, as will appear from the table given in the next page.

We have done similar calculations for men also. In 1961, there were 49 districts in India where the average age at marriage of males was below 18 years. If it is proposed to raise the minimum age at marriage to 20 years for girls, it follows that the minimum age at

NUMBER OF DISTRICTS IN EACH STATE WHERE THE AVERAGE AGE AT MARRIAGE OF FEMALES WAS BELOW 15 YEARS IN 1961

State	Total No. of districts	No. of districts with average age at marriage of females below 15	Per cent of total No. of districts
Madhya Pradesh	43	33	77
Bihar	17	12	71
Rajasthan	26	17	65
Uttar Pradesh	54	26	48
Andhra Pradesh	20	7	35
West Bengal	16	5	31
Maharashtra	26	8	31
Mysore	19	3	16
INDIA	318	112	35

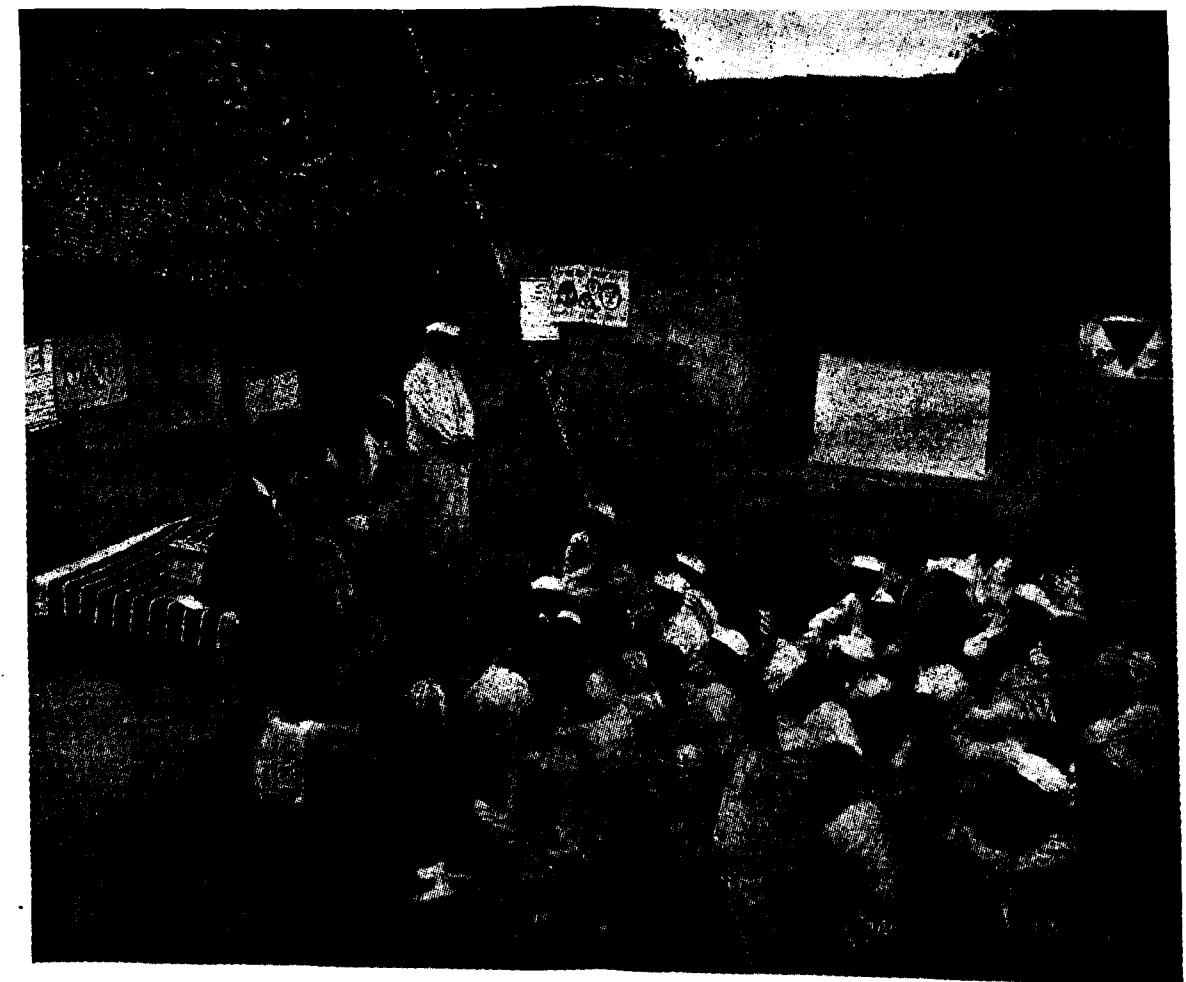
marriage for men also should be pushed up. What are the implications if it is raised to 25 years? Our computations show that in 1961, males in 293 districts out of the total of 318 districts in India (92 per cent) had an average age at marriage of below 25 years. In most of the States 100 per cent of the districts recorded an average age at marriage of males which was below 25 years. Kerala's case, however, was strikingly different: only 11 per cent of the districts belonged to this category.

Thus, judging by the 1961 level in India, 95 per cent of the total number of districts had an average age at marriage of females below 20 years, and 92 per cent of the districts had an average age at marriage of males below 25 years. This gives an idea of the magnitude of effort involved in raising the average age

NUMBER OF DISTRICTS IN EACH STATE WHERE THE AVERAGE AGE AT MARRIAGE OF FEMALES WAS BELOW 20 YEARS IN 1961

State	Total no. of districts	No. of districts where the average age at marriage of females was below 20 years	Per cent of total no. of districts
Andhra Pradesh	20	20	100
Bihar	17	17	100
Gujarat	17	17	100
Maharashtra	26	26	100
Madhya Pradesh	43	43	100
Mysore	19	19	100
Orissa	13	13	100
Rajasthan	26	26	100
Uttar Pradesh	54	54	100
Punjab	19	18	95
West Bengal	16	15	94
Madras	13	12	92
J & K	9	8	89
Assam	11	7	64
Kerala	9	3	33
INDIA	318	303	95

at marriage to 20 years for women and 25 years for men. Here we must emphasise once again that we are not thinking of raising the minimum age, which is largely a question of legal enactment, but the average age at marriage cannot be pushed up by law alone but by the forces of modernisation in our society. There are demographers who have done technical exercises to prove that the impact of raising the age at marriage of girls from 15 years to, say, 20 years will not have much of an impact on the fertility level while others have pleaded that inasmuch as the age-specific fertility rate is high for the age group 15-19, a postponement of marriage by five years will certainly mean a dent on the birth rate. We do not propose to go into the controversy here. Our contention is that the most important impact of a higher age at marriage is not the cut it makes



Direct contact with groups of villagers is one of the best methods to spread the message of family planning. A meeting in village Rampur, U.P.

(whether it is large or small) on the initial fertility of each woman but the possibility of a change in the total fertility pattern. To give an example of this, we may point out that women who marry late also stop producing children early. In other words, the fertility span is reduced at both ends and not at the beginning only. Thus the impact of a higher age at marriage should not be measured only by the cut it makes because of skipping the age group 15-19 but the cut it is likely to make on all age groups in the reproductive period. Coming to non-demographic aspects, the increase in the age at marriage should be welcome inasmuch as such women can be assumed to have a greater responsibility towards themselves, their children and their families. In fact, an increase in the age at marriage is an essential element of the process of emancipation of women, of the increasing oppor-

tunities for women to acquire higher education and qualify themselves for employment in the modern non-agricultural sector, and of the overall process of industrialisation-urbanisation-modernisation.

SOCIAL CHANGE

Finally, it is our contention that family planning in India will not succeed if it is left to itself and especially if it is confined to clinics. The forces of social change must come to the aid of state-sponsored family planning in a big way. The social, economic and other factors which bring about a postponement of marriage will also act as motivators for a small-family pattern even after the postponement of marriage. Thus raising the average age at marriage will in itself be a motivating force for a small-family pattern. The family planning pro-

gramme should not be tied to the apron-strings of health educators and the dubious class of family planning motivators but form an essential element of the programme for social development marked by emancipation of women, the increasing opportunities for female education, increasing participation of women in the modern sectors of economic activity in a country which has modernised its voting behaviour as far as women are concerned. A higher age at marriage and a small-family pattern should be regarded as important items on the agenda for social development, but these should not be the only items.

The proverb "Old at the age of 20" must give place to a new slogan "Life begins at 20". A word of caution for our experts on family planning communication. Use this slogan sparingly on hoardings in city streets, think of Rural India.

DEMOGRAPHY AND DEVELOPMENT

S.N. AGARWALA

UNTIL about 40 years ago there was little discussion in India about population problems, presumably because the rate of population growth did not appear alarming to planners and policy-makers. In the second half of that decade, however, some interest was generated and the first Indian Population Conference was held in 1936 under the auspices of the University of Lucknow. The Second All-India Conference on Population and the First Family Hygiene Conference was held in Bombay in 1938.

Family planning is an essential part of the economic development planning process in India. To provide information for planning purposes, 14 Family Planning Communication Research Centres have been established in the country, seven of them since 1962. As a result, a large body of research material on family planning attitudes, beliefs and practices, and on the effectiveness of contraceptives, is now available. Also, considerable data is available as a result of socio-economic surveys of some 21 cities sponsored by the Planning Commission in 1954.

Demographic teaching and training is, however, still undeveloped in Indian universities. Demography is not taught at the undergraduate level in any of the Indian universities, though a few introductory lectures on population theories and population problems are given to students of economics and sociology. At the post-graduate level, only one university provides instruction in demography. In several other universities students can opt for one or two papers in demography, population problems, social demography or vital statistics as an alternative to the written examinations in economics, sociology or statistics. In addition, fourteen universities provide for a few lectures on demography, population problems or vital statistics in post-graduate teaching in economics, statistics and sociology.

The Demographic Training and Research Centre at Bombay, which is a regional centre for demographic training for the countries of the ECAFE region, was

Dr Agarwala is Director of the Demographic Training and Research Centre, Bombay.

established by the Government of India in July 1956 in collaboration with the United Nations. The Centre has so far trained 220 students, of whom 102 are from 17 ECAFE and 2 African countries and 118 are from India.

Inadequate facilities and capabilities for a formal degree in demography in Indian universities may be attributed to the fact that demography as an academic discipline is a recent development. With the growing realisation by the planners and policy makers in India that demographic variables are necessary in the formulation of policies for economic and social development of the country, it can be safely said that the demand for trained demographers in the country must increase. There is need for trained professional demographers for undertaking demographic research in various research institutions of the country, and the government departments also require them for collection of demographic data and analysis related to policy formulation. It also appears reasonable that the departments of economics and sociology of the Indian universities will require economists or sociologists trained in demography, or have their present staff trained in demography. There is need for setting up special short-term training programmes to meet the need of family planning workers, social workers, doctors and others who require a knowledge of demographic data and its utilisation in family planning programmes.

The first step in developing a sound demographic foundation would be to encourage the introduction of population as an additional subject of study at the undergraduate and the post-graduate levels. This would generate interest in the subject and a more thorough understanding of the relationship between population growth and economic and social development. The universities must, as soon as possible, admit students for research work on demography, which would develop a reservoir of scientific data in population. Once the universities develop teaching programmes in demography, the necessary talent would become available for research and other demographic assignments within the country.

Another type of training programme, which is immediately required, is a short-term programme for statisticians and demographers who are employed in various State Family Bureaus and Family Planning Training Centers for undertaking the task of collection and analysis of family planning data.

RESEARCH

The first systematic attempt to collect demographic data in India in recent times was made during 1865-72, when the first population census was taken in the country. The first synchronous census was, however, taken in 1881 and a census has been conducted every tenth year since then. The censuses contain a wide range of demographic information, and are the most important source of demographic data in India.

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INDIANOIL has freed me from long, tedious hours over my stove; now there's time to spare for the distractions of city life. Indane, INDIANOIL's liquefied petroleum gas, makes my cooking clean, fast and easy, and there's no blackening of pots and pans.

My homework as well as mother's household tasks are a lot easier because of INDIANOIL. It supplies Jyoti kerosene to light our lamp and cook our meals. Kerosene is brought to my village by bullock-cart. But INDIANOIL makes sure it reaches all villages, however far, by many kinds of transport—tank wagons and tank trucks, 3-wheelers, camel- and mule-carts and even hand-carts.

INDIANOIL is able to do all this because it is owned by us.



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However, with only a few exceptions, very little analysis of census data has been performed either by census officials or other demographers.

The output of research material on topics like fertility, family planning attitude and effectiveness, urbanisation, migration, nuptiality, etc., has increased since the opening of the demographic research centres and the family planning communication research centres in the country. At present, ten demographic research centres and fourteen family planning communication action research centres are functioning. In addition, there are nine other institutions which undertake researches in demography and population problems.

POLICY-ORIENTED RESEARCH

There is a need for policy-oriented research on specific topics for formulating population policies. There is also a need for consensus on research activities and methods so that research projects are agreed on standardised schedules, sample design, standardised tabulation, analysis and presentation. A number of voluntary organisations and individual research workers have conducted studies on attitudes of people towards family planning. This has to be encouraged, but it is necessary to standardise the varying procedures of data collection, tabulation and analysis. A standard schedule or questionnaire with appropriate instructions for data collection and a proforma for tabulation could be utilised by persons or institutions incapable of sophisticated research.

Family planning attitude studies have been of a general nature in the past but much greater depth is necessary for a more thorough understanding of attitudes, motivation and behaviour and their relation to family planning. Again, it is necessary that various concepts are standardised and their definitions agreed upon by research workers before further surveys are conducted. The scope for such surveys should be widened and attempts made to identify factors influenced by customs, attitudes and behaviour patterns associated with different cultures, which determine the levels of fertility. This type of research could also be directed towards a study of fertility behaviours of different cultural or social groups living in different environments.

More studies relating to the effectiveness of contraceptives in different parts of the country are essential. Research workers should investigate more vigorously the reasons for drop-out cases by interviewing visitors; to find out the workload in the family planning clinics, specially in the rural areas; to find out the abortion rate among those using contraceptives; to find out differential contraceptive use among different socio-economic groups; and to identify factors which would promote greater use of contraceptives.

There is need for increasing the magnitude and direction of change in fertility as a result of social legislation in India. There is little concrete information available on this, and, therefore, carefully planned research on the effect of social legislation like increase in the age at marriage, compulsory primary education of children and education of females is necessary for

the government to take appropriate policy decisions. Fundamental research and mathematical model building to study the impact of population variables on economic and social planning as a whole are essential. The relative impact of different variables on such demographic facts as fertility, mortality and urbanisation must be quantified.

It is appropriate that a study of demographic variables, which are brought about as a result of urbanisation, should be undertaken. The changes in demographic indicators, when one proceeds from a small hamlet to a metropolitan town, need to be studied and quantified. The results of such studies are necessary for the Government to formulate appropriate policy relating to urbanisation and migration.

ROLE OF DEMOGRAPHERS

The Government planners and policy makers are now utilising demographic data to a greater degree in planning and policy making. The demographers, therefore, have an increasingly important role to play in providing relevant and reliable information for the planners and policy makers. Efforts should, therefore, be constantly made to increase and improve the reliability of the information available to policy makers. The demographers have great responsibility in this direction and the future development of demography in India will largely depend on the readiness with which they provide relevant and reliable demographic data to the planners and policy-makers.

THE FOOD FRONT IS ALMOST AS VITAL AS THE MILITARY FRONT

Produce more to strengthen our defence
and economy

The Fertilizer Corporation of India, the largest producer of Chemical Fertilizers in the country, through its operating factories at Sindri, Nangal, Trombay and Gorakhpur, is supplying the much-needed fertilizers to carry the nation forward in its drive towards self-sufficiency in food.

THE FERTILIZER CORPORATION OF INDIA

TIME AND-TARGET-ORIENTED PROGRAMME

GOVIND NARAIN

INDIA's family planning programme has gathered momentum since 1966. Of the 4.5 million sterilisations and 2.4 million I. U. C. D. insertions done in the last twelve years, 2.7 million sterilisations and 1.5 million I.U.C.D. insertions were performed in the last two years. Thus the work done during the last two years was more than the total for the first ten years.

The factor most responsible for this achievement has been the development of a time-and-target-oriented programme and a matching organisation which has roots in the field and has as its main strength the involvement and participation of voluntary organisations, professional groups and organised sectors. In addition, this organisation is designed to promote decision-making for effective implementation at all levels and it is human and welfare-oriented. It is also highly flexible and within the given framework allows States and Union Territories ample scope for innovations.

The overall objective of the programme is to reduce the birth rate to 23 by 1978. The operational goals are : to slow down the rate of growth so that its drag on economic progress is reduced and to bring about social change by promoting low fertility or small family motives. For achieving the ultimate objective and the operational goals, the programme has to become a self-generating process and all endeavours have to be made to make this a distinct possibility.

Mr. Govind Narain, ICS, is Secretary, Ministry of Health, Family Planning.

Family Planning work done in the last two years was more than in the previous ten.



DOWN TO EARTH ORGANISATION

In order to achieve these objectives, an organisation has been evolved to reach the 100 million couples in the reproductive age-group spread over the country's 5,60,000 villages and 3,000 towns and cities. It is akin to an emergency organisation capable of working for a long time at a fast pace. This organisation would go into the maintenance phase only when the objective of reduced birth rate has been achieved and when family planning activities have become an integral part of the medical and health services.

CAFETERIA APPROACH

However, the attainment of the objective of reduced birth rate is a time-consuming process and the organisation has to ensure that the birth rate continues to decline and that while the death rate touches the lowest possible level, population growth does not offset but help in the consolidation of the economic gains. The conviction that the achievement of decline in fertility through contraceptive practice would be possible if people were offered a choice of methods led to the introduction of the cafeteria approach. A number of proved and tested methods were offered to the people. Thus conventional contraceptives like the condom meet the needs of the newly married, I.U.C.D. helps couples having one child in spacing children and sterilisation procedures could be availed of by those who have had two or three children. But of course the final choice has to be of the couples themselves.

The programme organisation aims at dealing with the total man in the total environment through an inter-disciplinary team working in co-operation with the representa-

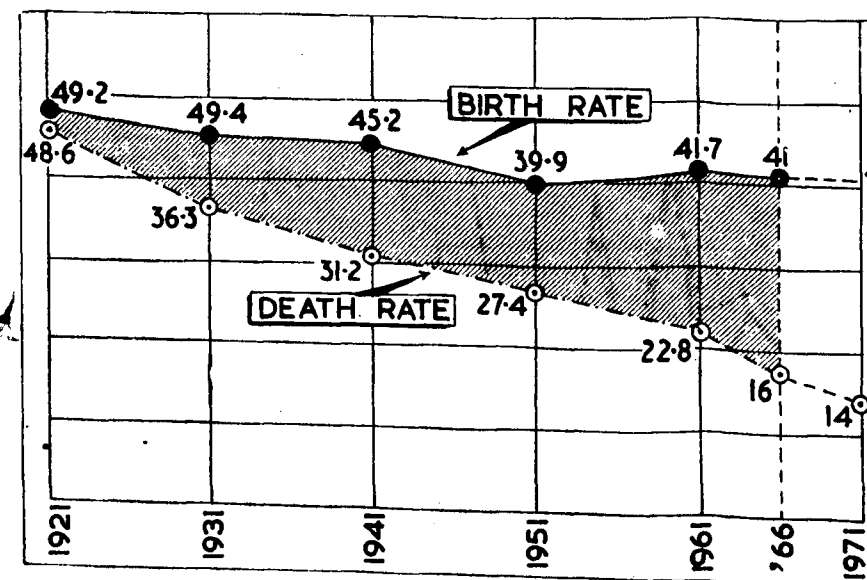
tive institutions of the people. The organisation envisaged for the programme is permeated by team spirit and has its feet on the ground.

AT VARIOUS LEVELS

Thus, at the village and block levels, there are implementation committees of panchayat members and other opinion leaders. At the district level also, similar committees have representatives of social welfare organisations to direct the programme. The State cabinets have Family Planning Sub-Committees and the State Family Planning Councils take policy decisions and keep an eye on their implementation.

At the central level, the Central Cabinet also has a Family Planning Sub-Committee presided over by the Prime Minister. This Committee takes stock of the family planning programme from a national angle and gives overall policy and administrative clearance. The Central Family Planning Council is composed of the Health Ministers of the State Governments and representatives of voluntary organisations. It takes stock of the work done and gives directives for its

further implementation. In addition, a high-powered Board has also been appointed to identify problems faced by the programme, to take decisions about the ways in which these problems can be solved and to sanction schemes which would accelerate the implementation of the programme. The appointment of this Board is



YOJANA September 15, 1968 Page 15

Aim to reduce births per thousand to 23 in the next twelve years.

A down-to-earth organisation, permeated by team spirit, tries to reach 100 million couples in the reproductive age group.

A number of proved and tested methods offered to the different varieties of couples: newly married, those with one child, those with two or more children.

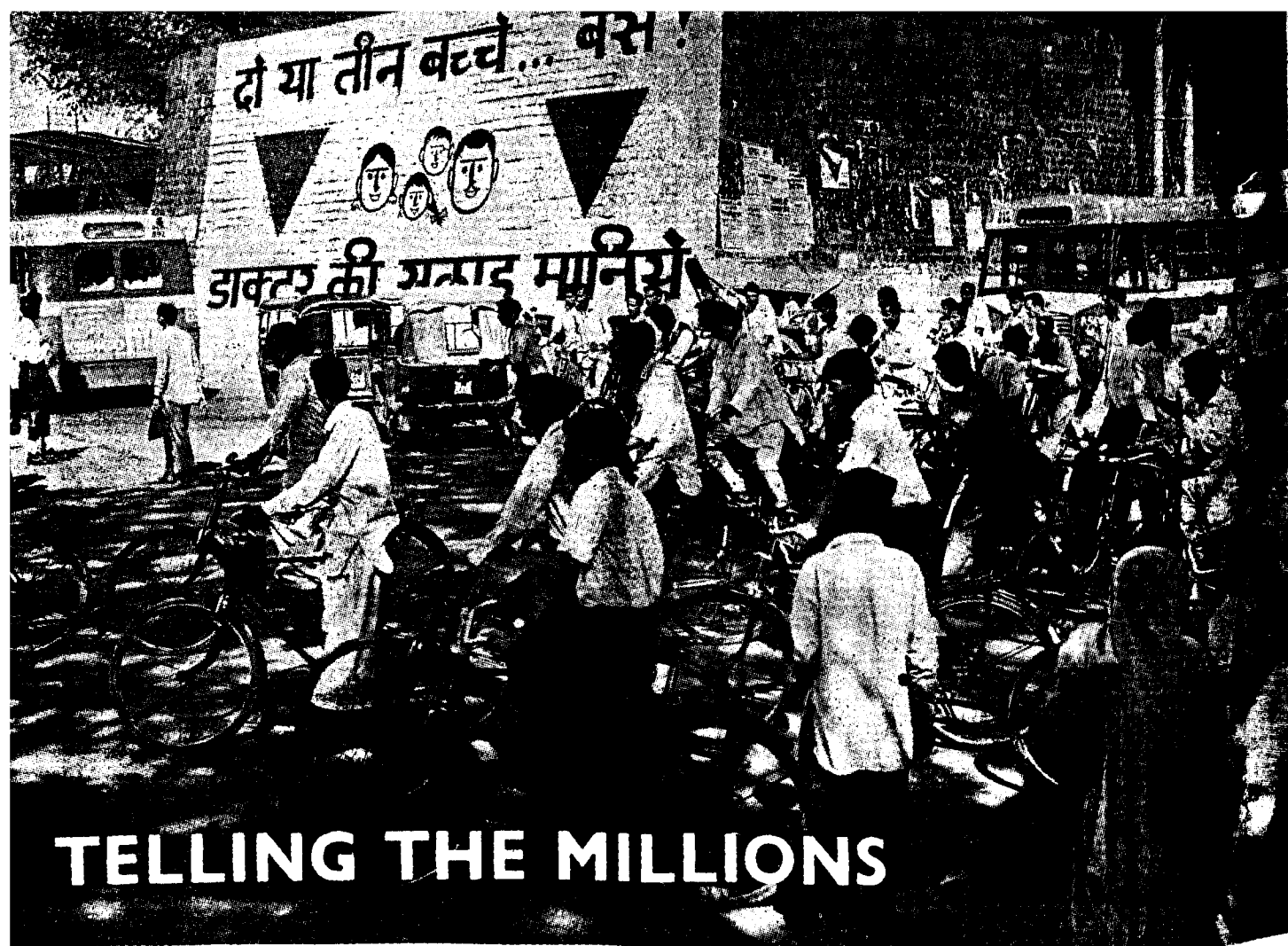
Perspective planning is the backbone of the programme. Targets for achievement for each year up to 1978-79 have been worked out.

India was the first country to ask U.N. to send a team to evaluate its family planning work. The recommendations of the first team have been implemented. The second team is awaited.

unique in the annals of administration, for it enjoys extraordinary powers which will enable it to overcome red tape and give a boost to the programme.

The basic feature of the programme organisation is that it is welfare-oriented and designed to promote decision-making to help implementation with speed. The organisation is also flexible and ensures free flow of communication between Programme Directors and field staff both in matters of policy-making and in implementation.

For executing a programme on an emergency basis, the organisation has to function without financial fetters but with an orientation for achieving optimum results with given inputs. The programme has full financial backing. The First Plan provision of Rs 6.5 million rose to Rs 49.7 million in the Second and to Rs 270 million in the Third. The estimated expenditure during the Fourth Plan would be about Rs 5,000 million. Since it is not the amount of money but the way that it is utilised that matters most, the progress of the programme



TELLING THE MILLIONS

"TWO OR THREE CHILDREN

ENOUGH"

FRANK WILDER



Mr Wilder is Ford Foundation Consultant to the Government of India in Mass Communication for Family Planning

THERE is an interesting paradox in India's special new approach to mass communications for family planning. The new Indian mass communications programme represents a sharp departure from widely accepted reliance on the "modern" media (press, radio and motion pictures), but this departure is a return to older, existing media, exploiting them massively and in new ways. They are visualising a

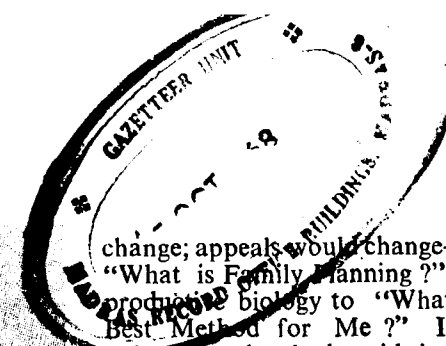
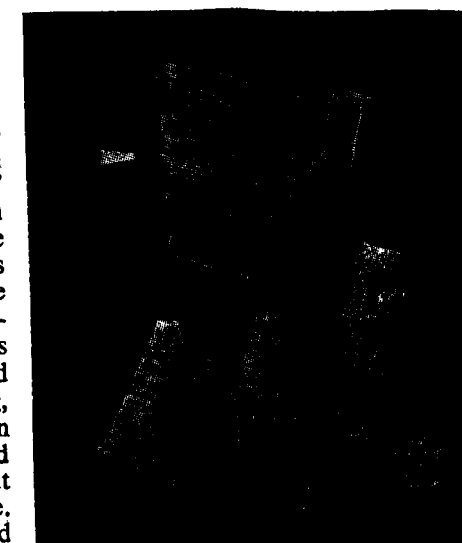
single, simple message in the daily real-life setting of the common man, in the places he visits every day and on the objects he sees or handles routinely. In a sense, the new Indian approach leads us now to regard the "modern" media of press, radio and films as "traditional".

The Indians, of course, continue to expend funds, staff and energy on a large scale in the utilizations of press, radio, motion pictures, exhibits, printed materials and the like. While these media are spread over the country, their real audience is confined to some 20 per cent of the population, mainly in urban and semi-urban concentrations—where the need for motivation is least (but where coverage is also needed for the sake of pay-offs through radiation.)

A realistic look, for example, at the well-known mobile audio-visual van as a means of bringing information and knowledge to villagers reveals a major aspect of the soundness of the Indian approach. In India, the Government's total public information program (both for support of development and for straight propaganda) has at its command a mere 140 such mobile units, known as "cinema vans". That means one unit to cover 4,000 villages. The Department of Family Planning, seized with the need for a massive mass communications effort, won a fund appropriation for 335 mobile units exclusively for family planning—that is, one for each District (average population 1.6 million). It will be another few years before these 335 additional family planning mobile units are functioning. Whether all or most of them will be efficiently and effectively functioning at that time is doubtful. Given full effective operation of these new audio-visual vehicles—meaning a large, trained and hard-working staff, availability of power, no breakdowns of vehicle or equipment, and sustained logistic support—it would take eight years for each vehicle to visit each of its 1,700 villages once. (At India's present growth rate, the addition to the population would, by then, be more than 100 million.)

SIMPLE MESSAGE

The first element of India's special strategy in mass communications, then, is massive exploitation of what we may call the "outdoor" media. Before describing these in detail, it is important to note the second important element of this strategy: Special treatment of the content of the information programme. In the first place, the Indians chose to ignore those Indian and foreign specialists in advertising, publicity and mass communication who counselled a changing, phased campaign that would run the gamut in both presentation and message. Slogans would change; designs would



change; appeals would change—from "What is Family Planning?" to reproductive biology to "What is the Best Method for Me?" Instead, filling up the bad void in media coverage in villages and their own bureaucratic sluggishness, they decided to find a message that would be a direct exhortation to have a specific number of children; to present this message in the same form in all media; to keep it simple and understandable; and to stay with it until everyone knew, through this message, that family planning is legitimate and what it means. In their belief that no literate Indian in the target group does not know his own language, no materials were produced in English.

The basic message presents visually the stylised front-view faces of a smiling mother and father, a son and a daughter. The message, in words no Indian can fail to understand, says simply: "Two or three children are enough!" It is produced separately in 13 languages. (The message is warmer and more engaging in the Indian languages than it is in the English translation above.) The colours are always the same, bright and attractive. The faces are drawn always in the same style. The same message is verbalised in an appealing song written by a popular Indian song-writer, recorded by a famous voice recognisable by most Indians.

Back to the question of media: This simple distinctive message is repeated on billboards, buses, posters handouts, matchboxes, rickshaws, pocket calendars, newspapers

To carry the "small family" message to the millions, every means has been exploited. Even the back of a cycle rickshaw in U.P. (Top) and the humble paper-bag used as a container (Bottom) have been pressed into use.

Secondly, and more important, the Red Triangle is easy to reproduce anywhere. No artistic talent is needed, which means that it can be quickly painted in the remotest areas by local personnel.

For use on the clothing of family planning workers, it is easily cut from a piece of red cloth and sewn on. Nor is there any difficulty in making metal or plastic badges.

Because of its bright colour, the Red Triangle is clearly visible at some distance. The Red Triangle will soon be displayed wherever contraceptive supplies are sold or distributed, even at drug stores, grocery stores and tea and cigarette stalls.

But probably of greatest importance is the fact that, unlike elaborate graphic emblems, the Red Triangle can be verbalised in any language in the world. It can be called by name—"The Red Triangle." Illiterates quickly learn to call the Red Triangle by name in their own particular language. This makes it easy for persons to enquire about the location of a clinic and to converse about family planning. They can even ask for contraceptives without embarrassment, if contraceptive products carry the symbol in their packaging or carry the brand name, "Red Triangle".

In the cold light of print, this three-part Indian strategy in mass communications will seem to some of us to be undeserving of the labels, "imaginative", "new", or "revolutionary". Yet, it is all of those.

It is imaginative in its insistence on thinking in terms of its audience primarily; it is new in its departure from the "modern" media, although it turned stubbornly to the old and the obvious; it is revolutionary in its upset of existing thinking and trends in mass communications for development. The entire approach, taken together, is unheard of elsewhere. But it promises to work.

The photograph opposite was taken outside a village home in Punjab.

TARGET FOR TOMORROW

THE all-India target for IUCD insertions for 1968-69 is 2.1 million and for sterilisations 3.2 million.

The targets for each of the States and Union Territories are as follows :—

Name of State/ Union Territory	IUCDs	Sterilizations	Conventional Contraceptives [No. of users]
Andhra Pradesh	1,67,126	2,50,690	2,50,690
Assam	59,395	89,092	89,092
Bihar	2,21,719	3,32,578	3,32,578
Gujarat	1,01,432	1,52,148	1,52,148
Haryana	38,258	57,387	57,387
Jammu & Kashmir	15,818	23,728	23,728
Kerala	81,096	1,22,544	1,22,544
Madhya Pradesh	1,56,268	2,34,403	2,34,403
Madras	1,53,438	2,30,158	2,30,158
Maharashtra	1,91,907	2,87,861	2,87,861
Mysore	1,12,626	1,68,940	1,68,940
Orissa	83,189	1,24,784	1,24,784
Punjab	56,117	84,176	84,176
Rajasthan	1,00,157	1,50,235	1,50,235
Uttar Pradesh	3,49,618	5,24,426	5,24,426
West Bengal	1,71,506	2,57,260	2,57,260
Nagaland	1,680	2,521	2,521
A & N Islands.	346	520	520
Chandigarh	604	906	906
Dadra & Nagar Haveli	278	417	417
Delhi	15,516	23,274	23,274
Goa, Daman & Diu	2,706	4,060	4,060
Himachal Pradesh	13,862	20,793	20,793
Manipur	4,174	6,261	6,261
L.M. & A. Island	108	161	161
NEFA	1,532	2,298	2,298
Pondicherry	1,730	2,595	2,595
Tripura	5,737	8,605	8,605
TOTAL	2,108,543	3,162,821	3,162,821

The targets are at the rate of 4 IUCDs, 6 sterilisations and 6 regular conventional contraceptive users per 1,000 population.

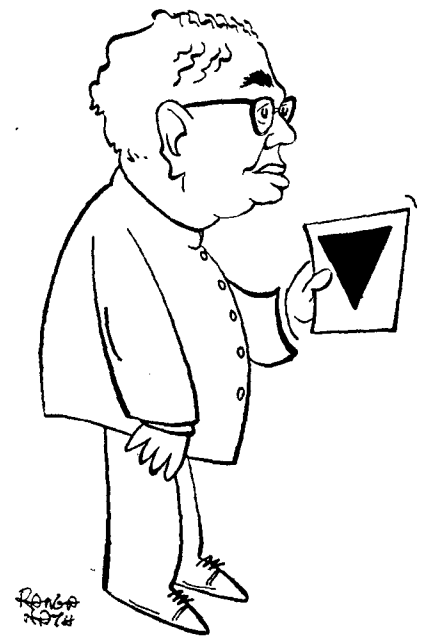
All States and Union Territories are requested to further break up these targets for their field workers.

At least 50 per cent of the IUCD and sterilisation targets have got to be achieved. Beyond this limit the targets can be interchanged at the rate of three IUCD insertions equal to one sterilisation.



A PROGRAMME AND THE HIGH-PRIEST

DR Sripati Chandrasekhar, who master-minds India's Family Planning programme, is a scholar-politician. This may be a contradiction in terms, but it is true of the high-priest of a programme, which, for sheer magnitude, has no



task the moral force of a crusader and the ruthless efficiency of a high-power salesman cast in the traditional American mould. A brilliant conversationalist, he speaks not only with fluency, but a deep understanding and knowledge of his subject. To him, work at the Ministry is not just a "job", but a challenge. Essentially a social scientist, he is a Minister because it gives him the opportunity and the authority to work for the good of his people in a more concrete and effective way.

Unconventional and forthright, Dr Chandrasekhar has at times shocked people by his revolutionary views and has often placed him in the very vortex of controversy. But, he is unruffled by these minor setbacks. An original thinker on the problem of population control, Dr Chandrasekhar seeks to implant the seeds of his thinking in the minds of men and women in his country. He has, for instance, spoken of the need for a "biological emancipation", which alone can bring about the complete emancipation of the Indian people. He asks: "Would it not be more dignified and useful for the youth of the country to rebel, not against examinations and teachers, but against the iniquitous social customs which riddle Indian society?"

ART IN LIFE: Two and Three Enough

parallel anywhere else in the world. An erudite scholar and a prolific writer, Dr Chandrasekhar has few equals in the field of his work and specialisation. The learned doctor, who is not yet 50, commands respect in any company. But, he does not conform to the familiar image of a man of learning, nor that of a Minister of Government. There is nothing "staid" or "stodgy" about him, nor is he pompous. He is intensely human, who likes people and wants to be liked by them.

A demographer at 19, when he wrote his first paper on the subject while still at college, Dr Chandrasekhar is passionately devoted to his work. He has brought to his

SIMPLICITY in art, as in writing, is a rare quality. It comes only with consummate skill and practice and to pastmasters whose essential quality is simplicity. We know how inordinately simple, for instance, is Gandhiji's style or Rajaji's style in writing. It is almost of the earth earthy. But how much surcharged with meaning, how facile, how devastatingly effective the simple words of those two men have been in conveying ideas.

The need for simplicity in ideas is nowhere felt more keenly than in conveying the message of family planning to the illiterate Indian villager and his wife. The idea of the small family has to be conveyed

in a direct, immediately appealing and telling manner. The men who are behind the mass communication drive have achieved this with an absolutely simple, catchy slogan and a slick drawing, showing the small family of parents and two children which cannot be easily improved for its naivete.

The credit for this simple, easily copyable drawing goes to Chandrabhanu Parganiha, an artist in the Directorate of Advertising and Visual Publicity of the Government of India. Many others in the Government Department would naturally have had their say in formulating the idea for the drawing, but Parganiha himself should get the large



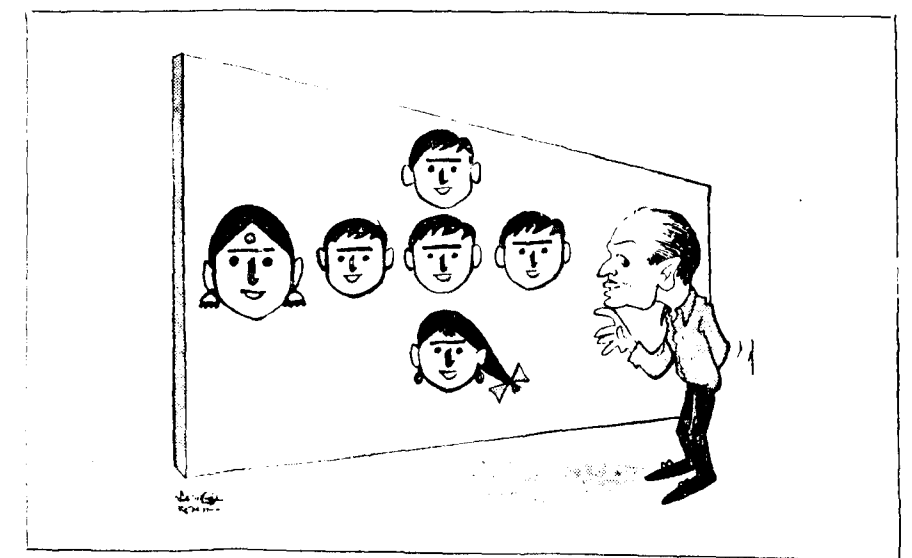
IGNORAMAN
Wants to Know
Why
the Pope
should have
Virodh against
Nirodh

Dr Chandrasekhar is a man in a hurry. His ideas flow faster than his words, and he expects everyone around him to keep pace with him. This is due partly to his mental make-up, and to a great extent to his western academic training. A perfectionist, he is impatient with those who do not match up to his exacting standards; nor does he have any time for those who dawdle.

acclaim. An unassuming artist, unused to limelight, Parganiha expressed wide-eyed wonder in his being sought after for an interview. "It is a rare honour", he said "that Yojana should write about me."

The artist, hailing from Ufara village in Madhya Pradesh, still seemed to possess the delightful simplicity and straightforwardness of a villager in spite of his having lived in cities for two decades. We asked him about the number of his children. "I have illustrated the slogan, Two or Three Children Enough. But in my case, it has become Two plus Three. I had only sons. The belief that to have a daughter is a 'must' to bring auspiciousness in the family has worked on me. And I had to try for a daughter. The result is I have four sons and a daughter. With that I have stopped."

Did anyone tell him that he should draw in a particular pattern? "I was given what is called a scribble. Then I had a free hand." For the drawing to be effective, the



artist thought, he should draw in minimum lines, without too many details and without any distinct regional touch. "Even an illiterate villager should be able to see and understand it without a moment's thought," said he. Well, he had the correct notion and then the child of his imagination took

no time to be born, what with his basic schooling in art from Nagpur University and Bombay J.J. School of Arts and long experience in D.A.V.P.

It is a chance encomium for D.A.V.P. which surely has many artists who turn out exquisite drawings that have escaped recognition.

Development Diary

● The Heavy Electricals Factory at Bhopal has manufactured a 125 MW transformer, the largest made in the country so far.

● The 62.5 MW Bhusaval Power Station, the fourth major thermal station in Vidarbha grid, has been successfully tested.

● India's first two-stage sounding rocket has been successfully tested at the Thumba Equatorial Launching Station near Trivandrum. Designed and fabricated by Indian scientists and technicians and capable of reaching an altitude of 60 kilometres, the rocket will be used for studying upper atmospheric wind conditions.

● Work on the common power grid for the four southern States has begun. It is expected to be finished by March next year. Transmission lines between the four States are already under various stages of construction.

● The Namrup Fertiliser Factory, a public sector undertaking in Assam, has begun production of urea. This is the first factory in the country to use natural gas as basic raw material. Set up at a cost of Rs. 21 crore, the factory will produce 55,000 tonnes of urea and one lakh tonnes of ammonium sulphate.

● An industrial unit in Allahabad, Uttar Pradesh, has started manufacturing power-driven hand tractors. Modelled on

the Japanese pattern, the tractors are particularly suited for small holdings.

● The Central Government has sanctioned Rs. 53.5 lakh for increasing the production of groundnut in 10 States, namely, Andhra Pradesh, Gujarat, Maharashtra, Madras, Uttar Pradesh, Madhya Pradesh, Punjab, Haryana, Mysore and Rajasthan. About 9 lakh hectares in these States will be put under oilseeds.

● A survey has shown that the lignite deposits in Kutch district are about 12.78 crore tonnes. According to experts these deposits of the district can sustain a 50 MW power station. Preliminary investigation in the district have put the coal deposits at 4.70 lakh tonnes.

● Orders worth Rs. 17.5 have been booked in West Germany for Indian ready-made garments for men. These garments were displayed at an exhibition in Cologne.

● The third 50,000 kW unit of Patratu Thermal Power Station in Hazaribagh, Bihar, has had a successful trial run and will be shortly put to commercial use.

● The Indian Agricultural Research Institute has developed two more high-yielding varieties of wheat—Sonalka and Chhoti Lerma—which have proved highly suitable for cultivation in the hilly areas of Himachal Pradesh. These varieties

have an average yield of 35 quintals per hectare which is 75 per cent higher than the yield of earlier varieties.

● The State Trading Corporation of India has signed an agreement for the supply of over 3 lakh tonnes of salt, worth about Rs. 70 lakh, to Japan by the end of June next year.

● India exported 22,000 tonnes of spices worth Rs. 7.85 crore from April to July this year as against 13,000 tonnes during the corresponding period last year.

● Two agreements have been signed between the United Nations Development Programme and the Government of India under which UNDP will provide one million dollars to India for an Advanced Vocational Training Institute to be set up at Madras; and about 7 lakh dollars to set up a Mechanical Engineering Research Development Organisation at Durgapur with three regional centres at Poona, Ludhiana and Madras.

● The first consignment of 40 wheel-sets, required for the supply of wagons to South Korea, has been despatched from the Hindustan Steel Plant. Hindustan Steel Limited secured this order against tough international competition.

● The Research Centre of the Andhra Electricity Board has designed an instrument to detect the theft of electric power.

● Under an agreement signed with Ceylon, India will export about 2,500 tonnes of dried fish worth Rs. 60 lakh to Ceylon in the next three months.

CROSSING THE MENTAL BARRIER

To propagate the Family Planning Programme among the teeming millions of India, every means of mass communication has been mobilised. The Radio, which reaches the illiterate population more effectively and directly, is playing an important role in spreading the message.

G. K. MATHUR

THE motivational support given by All India Radio for creating a favourable climate of opinion for the acceptance of the concept of Family Planning assumes vital importance. With this end in view, 22 Family Planning Units at different Stations of All India Radio were set up in 1967 to undertake the work of motivational publicity in a planned and directional manner and within the past year and a half All India Radio has been able to make a steady headway in this connection.

The principle governing this publicity has been that it should be field-based and socially oriented. It was also desired to associate the largest number of people from different communities including leaders of public opinion with the Family Planning programme.

Accordingly, two-dimensional planning was undertaken—one instructional and the other motivational. Special stress was laid on the participation of women of urban and rural areas, persons belonging to the low-income groups in the cities and towns and families of workers in the industrial areas. Particular attention was paid to removal of doubts and misgivings among the people and to counter false rumours by inviting more and more beneficiaries to the microphone. All the programmes at these stations were planned and broadcast on the basis of the above-mentioned approach. Thus instead of straight talks or single items, in which only one

Mr. Mathur is Joint Director, Family Planning, All India Radio.

participant is booked, the majority of the programmes was of the type in which a large number of persons could participate, such as Discussions, Questions and Answers programmes, Interviews with beneficiaries, coverage of largely attended functions in the rural and industrial areas, Recordings of women's clubs, Newsreels, Youth contact programmes, Spot recordings at Family Planning camps, Programmes recorded at Slum areas and composite items introducing popular Stock Characters. Apart from this, the campaign was carried through special family-serials, plays and short stories. A number of stations also used well-known regional folk-forms in presenting the family planning themes.

This collective approach involving large sections of our community has been able to generate a favourable climate of opinion. A fairly wide base has been created on which our future publicity can be built up in specialised directions. For instance, it is now proposed to impart a more extensive social and cultural dimension to our publicity and to relate it to the realities of our daily life.

Another great challenge to the Family Planning publicity is to fight the mental reservations and prejudices of the taboo-ridden Indian mind and to shape a new social attitude towards progeny, parenthood, concept of morality and sex education. Already due to our family planning publicity the sense of embarrassment which people used to feel about family planning is giving way, and for the first time a subject about which people did not want to talk has been brought out into the open on a scientific and sociological plane.

The effect that this motivational publicity has had on the masses can be judged from the large number of listeners' letters All India Radio receives, press comments including criticism of our programmes, the interest our listeners take in our Questions and Answers programme and the actual instances of the reactions of peoples of various places which have led to the stepping up of actual field work in particular areas. For instance, some of the family planning programmes undertaken at Madras were considered so successful that the State Health Department have asked for recordings of these programmes to be played back in the post-natal wards of the Madras hospital. Another interesting reaction was received from Ranchi, which is a typical area consisting of Hindus, Muslims, Christians and Tribal population, in addition to a large industrial labour force. Due to our publicity, even the tribal women have taken to tubectomy and announcements on the radio have helped the State Government to gear up a number of Family Planning Centres. In Goa, the Panaji Station has been able to achieve a breakthrough and the maximum number of women participants recently have been at Panaji.

A recent dimension has been added to All India Radio's publicity inasmuch as more and more women are now participating in these programmes both from the urban and the rural areas and special plans have been drawn up for motivating the rural population, industrial areas, low-income group families, Jhuggi Jhonpri dwellers, tribal areas and communities.

All India Radio plans to extend the number of Units so that most of the areas in India are covered by our broadcasts and the Radio is able to fulfil the vital objective of crossing the mental barrier of prejudice and conservatism against the important message of family planning.

WORLD'S BIGGEST DRIVE TO CUT THE BIRTH RATE

Mobile Approach, Flexible Organisation and Wholesale Participation of Doctors

DIPAK BHATIA

NEVER in the history of the world has so large and extensive a drive been launched as our Family Planning Programme. It is unique in the annals of medical, health and welfare services.

It is rather significant that a traditional culture, in which discussion of individual intimate behaviour in the public was taboo, is becoming aware of and welcoming steps for voluntary modification of individual behaviour and recognising its wider social implications.

The public interest in the Family Planning Programme as revealed through the Press, discussions on public forums and over the mass media, has been astonishing indeed and is indicative of the beginnings of significant social change in our society. People are becoming increasingly aware of the necessity of small families because of economic strain and, secondly, because of the motivational endeavour that has been undertaken as part of our Programme in projecting the welfare and happiness of the family in a controlled fecundity.

The strategy for a programme dealing with the intimate private behaviour of 200 million married men and women in particular and of the population in general had to be different. It had to be a break from the traditional attitude of medical and public health services which expected patients to seek out services. The new approach had to have the philosophy that it was not for the people to seek the services but for the services to seek out the

Dr. Bhatia is Commissioner, Family Planning, Government of India.

persons who need them, and to motivate others to accept them.

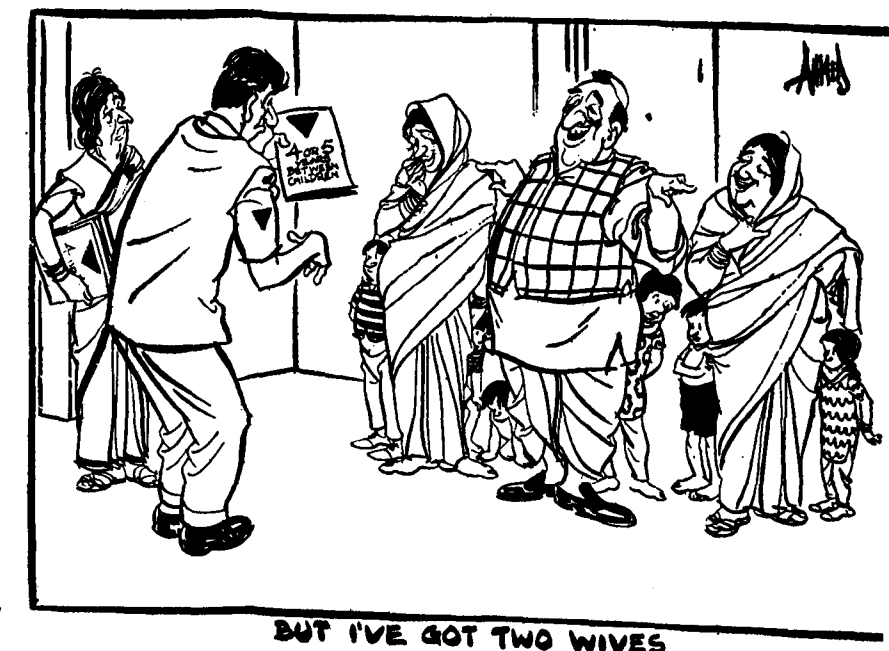
Our strategy designed to change individual attitudes and behaviour could not be coercive or a forced one; for compulsion or coercion is short-lived and cannot be sustained over a long period of time. However, social change is a slow and a somewhat imperceptible phenomenon and the organisation for the purpose has to be built on the solid foundation of the people's voluntary acceptance and participation.

The immensity of the problem of population growth can be realised by the fact that whereas with the advent of our planned development, national income went up by 64 per cent, the per capita income rose by 21 per cent only; while there was 300 per cent improvement in educational facilities, 63 million children still remained out of schools; and when 31 million additional jobs had

been provided, about 10 million people were still jobless. Such a situation called for drastic steps to curb population growth.

CHALLENGE TO DOCTORS

Having to reach the length and breadth of the country, the Programme faces a great challenge especially in the matter of providing services. Medical care is not available in all the villages as is evident from the fact that one allopathic doctor is available for 45 villages or 27,000 villagers, one homoeopathic practitioner for 26 villages or 21,000 village dwellers and one Ayurvedic practitioner for 21 villages or 12,600 villagers. Efforts have thus to be made to involve all practitioners of modern and indigenous systems of medicine. Since they are in contact with the people, and being their confidants, they can be most effective in motivating them for family planning. Accordingly the representatives of the professional organisations of practitioners of modern, homoeopathic and indigenous systems have been involved. The



Indian Medical Association has accepted the responsibility of training as many of the 96,000 medical practitioners in the country as possible.

OPTIMUM RESULTS

Non-professional organisations which have their roots in the community are also being involved. Voluntary organisations are born out of the urge of the members of the community to take up activities for social good. All such organisations are sought to be involved in the Programme. Significant steps have already been taken in this regard and organisations like the Red Cross, the Rotary Clubs, the Lions Clubs, the Chambers of Commerce and the Junior Chambers are being helped to undertake Programme activities.

The task being urgent and the resources being limited, the effort is to achieve the optimum results with the minimum of investment. The strategy accordingly is that

whereas endeavours must be made to take the facilities right up to the periphery, in some areas where there is a large concentration of population, there should be an optimum spread of these resources. Accordingly, the Programme has developed the intensive district and intensive area approaches and has also provided patterns of assistance for organised sectors of trade and industry. It is hoped that in this way a substantial proportion of the population in the reproductive age-group could be tackled and a proper assessment of the Programme in these areas could bring to light the economic advantages which accrue both to the acceptors and to the organisations by the Family Planning Programme.

MOBILE APPROACH

The Programme has also taken into consideration the fact that the provision of supervision, care and services takes time. All the same,

realising the urgency of the problem, it seeks to make the facilities available at central points where the people could easily assemble. Thus the camp or mobile approach has been devised. Since the people who avail themselves of all these facilities often have to incur travelling expenses and also to forego their wages, the Programme seeks to relieve this burden by meeting a part of their out-of-pocket expenses. However, it is felt that as the services expand and reach the peripheral areas, the need for meeting such expenses will gradually decline.

The various steps taken in the Programme owe their genesis to the numerous field workers and to enlightened public opinion. It is hoped that the flexible organisation that our Programme has, will be alive always to the trend of public opinion and make such changes and additions as are needed to direct it towards the realisation of the objective of fertility control and a reduced birth rate.

If Population Grows Unchecked SUCCESS ON FOOD FRONT WILL BE TEMPORARY

J. N. SINHA

1949, 2.1 million tons in 1950 and 4.7 million tons in 1951".

WITH THE ENORMOUS LEAPS IN AGRICULTURE ENVISAGED IN THE NEXT FEW YEARS, THE RACE BETWEEN POPULATION AND FOOD PRODUCTION MAY BE NEARLY WON BY THE END OF THE FOURTH PLAN. BUT UNLESS THE PACE OF BIRTH CONTROL IS ACCELERATED, THE VICTORY MAY BE A PASSING EVENT.

HALF THE PEOPLE UNDERFED

Evidently, the planners in India did not start with a clean slate on the food front. In calorie terms, internal production in 1951 was adequate to supply less than 1,600 calories per capita. Supplemented with imports, average intake still amounted to only 1,800 calories per head as against a generally accepted norm of about 2,400 calories. This implies that if persons were supplied with a standard diet in bare quantitative terms (ignoring the supply of quality nutrients in the form of proteins, minerals and vitamins), about a quarter of the population would be totally starving. Actually however, the deficiency in food supplies was more widely shared so that it is estimated that one-half or more of the people suffered from under-feeding.

Our Plans had thus to clear off a huge backlog of undernutrition, in addition to providing food for the growing population. The situation was further complicated by the unprecedented demographic explosion which occurred in the last decade. The first two Plans were based on the assumption that population would continue to increase at the rate experienced in the preceding decade about 1½ per cent. Actually the linear annual rate of growth in the decade 1951-61 revealed by the 1961 census exceeded 2.1 per cent. The reasons for an accelerated growth are well known. While our birth rate remained virtually constant at a high level of over 40 per thousand

EVERY person born in the world has a mouth and a pair of hands. The demands of the mouth are obvious and the need to gear food production to the requirements of growing millions is sufficiently recognised by planners in our country. What is not so clearly perceived is that adequate food supply is a necessary condition for exploiting the energy of hands which alone can keep the economy on a path of sustained growth. This implies not only that food production is sufficient in the aggregate but also that it is regularly available to the people where they live and work. The problem of food distribution is as vital to the efficient utilisation of growing manpower in India as the problem of adequate production.

For a long time Malthusian checks were in operation to maintain balance in the Indian economy, though only at subsistence levels. Until 1921, decades of slow population growth alternated with those of actual decline when famines and epidemics decimated vast sections of population. Between 1901 and 1921 our population increased by less than 0.25 per cent per annum. This was matched by a proportionate increase in area under cultivation so that the supply of agricultural resources per head remained nearly constant.

The year 1921 marks a turning point in the demographic history of India. Abnormal mortality was largely eliminated so that our population was growing at a steady rate of about 1.2 per cent between 1921 and 1951. The low level of economic equilibrium was now upset. Agricultural resources failed to keep

pace with the growing population. As observed in the First Plan: "While the population has increased by about 39 per cent during the last four decades, the production of foodgrains has not kept pace with it. This indicates an appreciable decrease in the per capita availability of foodgrains from internal sources. For more than three decades India has been getting much larger quantity of grains (namely rice) from Burma than what it was exporting to other countries. The separation of Burma in 1936 has reduced internal supplies by about 1.3 million tons, and the partition in 1947 by a further 0.77 million tons. Since 1948 we have been importing large quantities of foodgrains, 2.8 million tons in 1948, 3.7 million tons in

Dr. Sinha is in the Institute of Economic Growth, Delhi.

JAPANESE GOVERNMENT SCHOLARSHIPS, 1969-70

APPLICATIONS are invited from Indian nationals for the award of six scholarships offered by the Government of Japan for Post-graduate study/research in (i) Electrical Engineering; (ii) Fisheries; (iii) Horticulture; (iv) Japanese Language and Literature; (v) Physics; and (vi) Ship-building and Naval Architecture, during 1969-70.

DURATION: Two years.

VALUE: (a) Maintenance allowance of 33,000 Yen per month; (b) exemption from tuition and entrance fees in Government institutions; (c) arrival allowance of 10,000 Yen; (d) 25,000 Yen per year as field study allowance; and (e) tourist class air passage from India to Japan and back.

AGE LIMIT: Not more than 35 years on 1st April, 1969.

MINIMUM QUALIFICATION: (a) (i) For Electrical Engineering—A first class bachelor's degree in Electrical Engineering; (ii) for Fisheries—Master's degree in Zoology with first class at Master's or Bachelor's level; (iii) For Horticulture—Master's degree in Agriculture with first class at Master's or Bachelor's level; (iv) For Japanese Language and Literature—a good University degree with proficiency in Japanese Language; (v) For Physics—Master's degree in Physics with first class at Master's or Bachelor's level; and (vi) For Ship-building and Naval Architecture—a first class degree in Naval Architecture;

(b) Two years' practical/teaching/research experience thereafter.

(c) Candidates having some knowledge of Japanese will be preferred.

Application forms can be requisitioned up to 26th September, 1968.

LAST DATE: for receipt of completed application is 1st October, 1968.

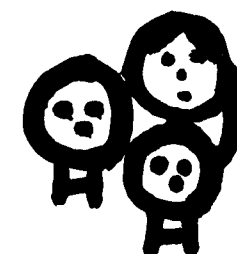
Advance copies of applications will be considered provided these are on the prescribed forms and reach the undermentioned address in time.

For application form and other particulars, apply enclosing unstamped, self-addressed envelope (23 cm × 10 cm) to:

THE SECRETARY, MINISTRY OF EDUCATION,

E.S.—1 Section, Post Box No. 445, New Delhi-1

davp 68/260



TOYING WITH AN IDEA

A lady doctor talks to a group of women at a Family Planning Centre in a small town in Uttar Pradesh. Contrary to popular belief, Muslim men and women have shown considerable interest in the Family Planning Programme.

the death rate fell down from 27 in the decade 1941-51 to less than 22 in 1951-61.

On the basis of the experience of other countries at more or less parallel levels of economic and cultural development, it is estimated by the Expert Committee on Population Projections appointed by the Government of India that the death rate may further decline to about 14 per 1,000 by 1971 and 11 by 1976. Regarding fertility, the Government has already launched a massive family planning programme. Since the adoption of family limitation devices is primarily a function of people's motivation and not of the mere availability of birth control devices, the immediate impact of the programme on fertility level is open to doubt. On an optimistic guess, one may agree with the view of the Expert Committee that fertility may decline by 5 per cent by 1971 and 10 per cent by 1976. On these assumptions birth rate would come down to a little less than 39 in 1971 and about 35 in 1976. Planners of food policy would have thus to

contend with a population growing at the rate of about 2.5 per cent per annum.

PER CAPITA INTAKE INCREASED

The concern of the planners about the grave food situation on the eve of the First Plan has already been noted. It was, therefore, natural for them to accord top priority to agriculture. Over 40 per cent of the outlays in the First Plan were allotted to agriculture, irrigation and power as against only 10 per cent for industry; the respective proportions were 30 per cent and 24 per cent in the Second Plan and 36 per cent and 24 per cent in the Third.

The total outlay on agriculture, irrigation and power in the three Plans was around Rs 5,000 crore. This had its impact on agricultural progress. Area under all crops increased by about 15 per cent in the First Plan; that under food crops also rose by about 12 per cent which nearly matched the growth

of population. Total foodgrains production increased much faster, by about 25 per cent. The pace of area gains slackened in the Second Plan, but the increase in food production was still as high as 18 per cent.

Taking 1949-50 (a normal year) as the base, the annual compound growth rate in the first two Plans works out at about 3.5 per cent (1.6 per cent due to area increase and 1.9 per cent due to rise in productivity), which is about the highest achieved in any decade in recorded history. But a good part of the benefit was wiped off by the rapid growth of population. Food availability per capita from internal production, however, still increased at the rate of about 1.5 per cent. In terms of calories, per capita intake increased by over 16 per cent in 1951-61, but the level in 1960-61 (2,100 calories) was still far below the norm.

The trend in food supplies took a serious turn in the Third Plan. Bad monsoons depressed production and reduced per capita food

availability in three out of five years. Even if we take the best year, 1964-5, the increase in production, compared with the initial year of the Plan, was only 81.5 per cent which was less than adequate to balance the additional requirements owing to population growth. The situation was saved only by a level of imports as high as 7.5 million tonnes.

Total foodgrains production in 1964-65 amounted to 89 million tonnes. Supplemented with imports, the total supplies came to 96.5 million tonnes. If we assume a balance in the year 1964-65 (a rather liberal assumption), the needs of the growing population alone would raise our food requirements to 112 million tonnes by 1971 and 127 million by 1976. Further adjustments will be necessary for rise in per capita income. Assuming income elasticity coefficient of demand to be 0.6 and an annual increase in per capita income of 2.5 per cent, our food demands would be 123 million tonnes in 1971 and over 150 million tonnes in 1976. It appears that the food target of 120 million tonnes envisaged for the Fourth Plan would very nearly secure a balance in our food budget. But this would require securing a sustained increase of over 4 per cent in our food output which in the face of limited scope for area gains would imply doubling the rate of productivity increase attained in the first two Plans. The magnitude of effort involved in this target would be evidently large and unprecedented.

On a global view the food problem does not seem to admit of an easy solution. Interspatial and inter-temporal aspects of the problem are even more complicated. Our food output shows wide fluctuations over time. These are inherent in the very nature of agricultural production in a country where over three-fourths of the area under crops depend on monsoon. Thus even if the production potential created by us is adequate to meet our food requirements in normal years, actual output may fall short in years of bad monsoon calling for policy measures which would even out food distribution over good and deficient years.

LESS FOOD FOR SOME REGIONS

Inter-regional inequalities in production and distribution of food present equally difficult problems. Thus while Punjab and Madras showed annual linear rates of 5.6 and 4.9 per cent increase in food production between 1952-53 and 1961-62, growth rates ranging from only 0.9 to 2.2 per cent were recorded in Gujarat, Assam, Orissa and West Bengal. The situation in the latter group was particularly worsened by relatively high rates of population growth (far above the national average); in fact they experienced negative rates of growth in food output per capita. Also in absolute terms, it is estimated that per capita availability of foodgrains in 1963-64 ranged in these States from 13 to 15 ounces per day, while it was as high as 27 ounces in Punjab.

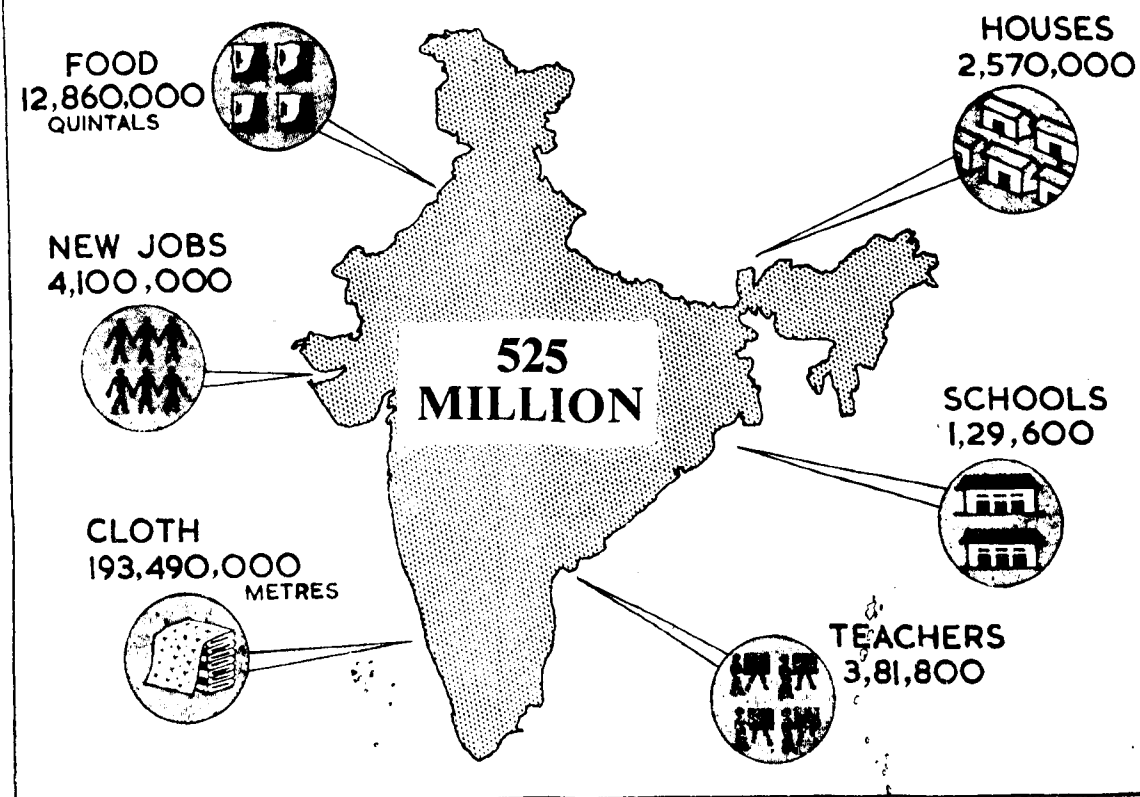
It may be noted, however, that the relative level of per capita consumption in a State is not a function of its internal production alone; it depends on a whole host of factors like occupational structure, per capita income and relative price levels. Inter-regional disparities in food standards cannot be solved by measures of food redistribution alone; they raise wider issues concerning the whole problem of balance in regional development.

Finally, there is the most distressing problem of chronic underfeeding among handicapped sections of the community within each region, notably agricultural labour. Thus, estimates based on second Agricultural Labour Enquiry reveal that households with income less than Rs 16 per capita per month, which account for some three-fourths of the total number of agricultural labour households, lived on less than 1,800 calories per head a day. The plight of their counterparts in urban areas, namely casual labour, is perhaps no better. The problem of these groups is primarily due to intermittent employment and low earnings. Aggregative balance in the food budget can perhaps give them little relief.

The race between population and food production poses challenging problems before the planners in our country. With the agricul-

tural breakthrough envisaged in the Fourth Plan, the race may be nearly won by the closing year of the Plan. But the victory may be no more than temporary until suitable steps are taken to accelerate the pace of birth control in the country. Further, since the growth of output is bound to show ups and downs over years, the state should build up sizeable buffer stocks in good years to even out distribution over time. Finally, there is the distressing problem of inter-regional and inter-sectional disparities. Partial control over food distribution may ensure some relief to the handicapped regions and groups. But this is at best a temporary palliative. The real answer to their problem lies in more effective employment, higher productivity and larger income per head. The solution to the food problem is thus linked up with the wider issues of rates of economic growth and balanced development of regions and groups which need simultaneous advance on production front and restriction on growth of numbers.

ADDITIONAL RESOURCES REQUIRED FOR 15 MILLION POPULATION ADDED DURING 1967-68



DOLLS TELL THE STORY



The concept of a small family has caught the imagination. Among those struck by the idea is a maker of the traditional wooden toys of Banaras.

SMALL FAMILIES : BETTER LIVING

K. C. SEHGAL

WHY do we need a family planning programme in India? Obviously, because we want to raise the living standards of our masses. Standards of living are ultimately a function of household incomes. According to one estimate, "86.9 per cent of the rural households live in a situation which is hardly to be defined even euphemistically as one of bare-subsistence. In 1960, 25.5 per cent of the rural households had an income of 75 paise per day, 38.3 per cent 39 paise, and 23.1 per cent 14 paise, which gives a weighted average of 35 paise per person a day for 86.9 per cent of the rural households." One can imagine the standard of living which can be maintained by an Indian with 35 paise a day. This is the background against which the significance and magnitude of the family planning programme, should be viewed.

The family planning programme is needed not only to raise, in the long run, our existing bare sub-



The number makes all the difference between happiness and worry. A large family means less food, less clothes and less living space for every member

The problem of economic development is not merely confined to the need to increase production in agriculture and industry. The main thing is to ensure a better life for the millions, who are still haunted by the spectre of poverty and yearn for the day when they will be able to live well. In this context, the need to limit population to keep pace with economic growth becomes vital.

sistence standards of living, but also because we want to avoid the nullification of our development efforts which is largely due to the rapid growth of population. In this connection, it may be pointed out that per capita food consumption decreased from 12.8 oz. in 1951 to 12.4 oz. in 1965, because of the addition of about 140 million people. The backlog of unemployment in 1951-52 was estimated at 3.5 million. By the end of 1965, 31 million additional jobs were created. However, unemployment rose to nearly 10 million because of the immediate increase in population and a consequent increase in the labour force. Coming to education, in 1950-51, 23.49 million children were going to school. Since 1951 educational facilities have expanded 300 per cent; but 63.8 million children are still out of school, because 13 million children are being added every year.

FALL IN STANDARDS

Family planning is needed not only because we want to avoid the process of deterioration in our existing standards of living, but also because of the immense implications of this rapid growth of population in the years to come. To meet the educational needs of an estimated 13 million persons added to our population every year, it will be necessary to provide for the following facilities :

Schools	126,500
Teachers	372,500
Houses	2,509,000
Cloth	188,774,000 (in metres)
Food	12,545,300 (quintals)
Jobs	4,000,000

The nation has to demonstrate a determined will to

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face the magnitude of this effort, if we choose to multiply at the existing rate. If we are not able to limit our families, we should be prepared for the continuous deterioration in our standards of living nor will be able to escape from, what the economists call, 'the vicious circle of poverty', caused by the shortage of investment funds. If capital is to be created at home by the country's own efforts, it is necessary to divert resources from the production of goods for current consumption. This requires a cut in present living standards. Since living standards are already virtually at the starvation level, then such a diversion will be difficult and at best only a small proportion of resources can be re-allocated to the production of capital goods. This situation is the vicious circle of poverty, which is holding the country in its grip today.

We are poor, because we have little capital per head; because we are poor, we can devote only limited resources for creating new capital rather than producing goods for immediate consumption; because little new capital can be produced, the capital per head is low; because our capital per head is low, we continue to be poor.

The Family Planning Programme thus assumes great importance in the process of economic development, aimed at raising our standards of living and taking us out of the vicious circle of poverty. If population expands as fast as the national income, then the per capita income will not increase. If our population does expand rapidly, we may make a great effort to raise the quantity of capital only to find that a corresponding

rise in population has occurred, so that the net effect of our growth policy is that a larger population is now maintained at the original low standards of living. An increase in living standards can be brought about only if capital, and possibly other sources, expand faster than the increase in population.

So far we have been taking 'standard of living' as the end to be achieved, amongst other measures, by the Family Planning Programme. It would be interesting to explore the possibility of using the bait of a better standard of living in order to popularise the family limitation programme in the country. In the Table below, the percentage distribution of consumption expenditure according to income classes and the average size of households in the four metropolitan cities of Delhi, Bombay, Calcutta and Madras have been given.

PERCENTAGE DISTRIBUTION OF CONSUMPTION EXPENDITURE ACCORDING TO INCOME CLASSES AND THE AVERAGE SIZE OF THE HOUSEHOLDS

	(Percentages)					
Consumption expenditure	Under Rs. 500	Rs. 500-999	Rs. 1000-1999	Rs. 2000-2999	Rs. 3000-3999	Rs. 5000-5999
Cereals	41.96	32.16	29.95	27.18	12.43	9.49
Cereals & substitutes	41.96	32.30	30.04	27.21	12.45	9.49
Pulses	3.85	3.31	3.22	2.99	1.85	1.64
Milk & milk products	1.97	10.67	7.92	7.25	12.14	10.40
Other food items	31.19	35.03	29.81	82.98	29.34	27.88
All food items	78.97	81.31	70.99	70.33	55.78	49.40
Clothing	—	0.37	1.25	2.52	5.20	5.90
Fuel & light	4.84	6.41	6.80	6.01	5.74	4.14
Other non-food items	16.19	11.92	20.95	21.14	33.29	40.56
All non-food items	21.03	18.69	29.01	29.66	44.22	50.60
Total consumer expenditure	100.00	100.00	100.00	100.00	100.00	100.00
Average household size	4.29	7.30	4.76	3.07	3.62	2.61

It will be observed that the largest income class ranging five to six thousand rupees has the smallest average size of household which is 2.61. Again, the 'best' average size of the household (7.30) is to be found in the income class just above the bottom. Thus it is clear that if we raise the standard of living of our people, it will definitely lead to a reduction in the size of families. So long as the people are poor and at low levels of living, they will continue raising bigger families.

This aspect of the Family Planning Programme, however, does not appear to be highlighted at present. There is no doubt that a small family is needed to raise the standard of living. But it is equally true that a better standard of living is needed to get small families.

In order to make my point, I would refer to the housing aspect of the standard of living. If we dump married couples in single rooms, they will not be able to avoid the temptation of co-habitation in spite of all our preachings and publicity. However, if spacious housing accommodation is made available to married couples, there are relatively greater chances of the success Family Planning Programme. The situation in this respect is extremely discouraging. The Table below gives an indication of the situation in seven big cities of India at the time of the 1961 census.

PERCENTAGES OF HOUSEHOLD WITH ONE ROOM

City	Percentage of households with one room only
Delhi	63.0
Calcutta	71.9
Bombay	72.3
Madras	67.5
Ahmedabad	65.3
Hyderabad	45.8
Kanpur	62.3

The preponderance of one-room accommodation with the majority of the families in these big seven cities is the inherent obstacle in the way of the success of the Family Planning Programme.

We should thus take a balanced view of the relationship between standard of living and family planning. Emphasising the need for the Family Planning Programme for achieving a higher standard of living and ignoring the need for a higher standard of living in order to achieve the success of the Family Planning Programme would only be a lop-sided approach.

THE WORLD'S PEOPLE

1650	5,000 million
1850	10,000 million
1930	20,000 million
1962	30,000 million
1970	40,000 million (expected)

Growth rate of India's Population

1650-1750	= 0.3% a year
1750-1850	= 0.5% a year
1850-1950	= 0.8% a year
1950	= 1.6% to 1.9% a year
1960-1970	= 2.5% a year

MORE MEN THAN WOMEN STERILISED IN THE LAST FIVE YEARS

A MINOR OPERATION THAT STOPS BIRTHS

A. K. PODDAR

VASECTOMY or sterilisation operation in the male is now-a-days widely known all over the world. The first recorded operation was done in Chicago, U. S. A., as early as in 1897. Since the Second World War, voluntary sterilisation to control the population explosion as well as to limit the family size is being thought of more and more in other countries. The advantages of vasectomy over tubectomy (female sterilisation), however, were recognised and accepted by the society only about a decade ago.

In India, the pioneering works of late Dr G.M. Phadke and the States of Maharashtra and Madras in the last decade inspired the Government of India to place more emphasis on vasectomy in the Family Planning Programme. Since 1956 till today, over 45 lakh sterilization operations have been officially reported in India, of which over 90 per cent are vasectomy operations. Today more men than women are volunteering for sterilisation. Since 1960 a swing towards vasectomy from tubectomy has been noticed in India, and even in the U.S.A. and other countries. A few years back,

Dr A.K. Poddar is in the Central Family Planning Institute, New Delhi.

Satara district in Maharashtra had set the world record by performing about 1,500 vasectomies in a four-day camp.

The aim of sterilisation, whether in male or in female, is to prevent pregnancy after conjugal relationship. This is achieved by making a block in the narrow sperm carrying tube called the Vas.

The operation of vasectomy is nowadays done by making a small cut only about half an inch and bringing out a small part of the Vas through this cut. About half an inch of the Vas is then cut and removed and the cut ends are tied with a thread. The skin cuts are also stitched and a bandage is applied. The stitches are removed after 3 or 4 days. The operation is completely painless. Sometimes only a single skin cut is made instead of two, and sometimes skin stitches are not given at all. The operation itself takes eight to ten minutes. It is so easy for the patient that after taking few minutes, rest he can walk down to his home without any discomfort.

Certain precaution is, however, necessary both before and after the operation.

For the purpose of family planning, namely, to limit the number of children, vasectomy can be sought when the man is married, aged usually 25 years or over, with two or more (preferably three) living children and is free from undue fear or wrong ideas about the operation. It can also be done for some medical reasons, namely, when further pregnancy has to be avoided because of certain serious diseases.

MAIN ADVANTAGES

Surpassing the initial fear, rumours and hesitations, vasectomy is becoming more popular because of the following main advantages :

1. It is the most effective birth control method compared to condom, loop, pill, tubectomy or any other method. The actual failure rate under expert hands is only about 0.1 per cent. So it is most suitable for couples who want to be

completely free from the worries of additional unwanted childbirths.

2. It is entirely a safe and minor operation without any bad effect on the general health or the sexual capacity of the person or his wife.

3. It is the cheapest, convenient and 'one shot' method. It does not require repeated purchase, supply or continuous motivation and practice of contraceptives, nor a hospital bed as in the case of tubectomy operations.

The only disadvantage of it is that it is practically an irreversible and permanent method. So it is not suitable for spacing, namely, giving a desired gap in between pregnancies, and it is not advisable for couples having less than two living children. The operation has to be performed only by an expert doctor.

Like any other operation, vasectomy may sometimes also lead to some complications if due care is not taken. However, these can be treated and cured effectively within few days.

Pregnancy or even an overdue menstrual period in the wife of a vasectomised person may cause much anxiety in the couple. The latter is a normal phenomenon and may occur sometimes or other in any normal woman. Pregnancy due to actual failure of the operation is quite rare.

To know the effect of the operation, quite a large number of studies have been done both in our country and outside. All these have shown that except in a few *psychoneurotic* persons this operation does not cause any bad effect on the physical, mental or sexual faculty of a normal person.

SCOPE

Recently, improved surgical techniques have not only reduced the complications further but also made it possible to re-unite the cut Vas if wanted afterwards. At present, further researches are being done to find out a simple technique for temporary blockade of the Vas.

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FOR TY THREE MILLION WOMEN VOLUNTEERED FOR STERILISATION

Not for Spacing Children, but for STOPPING PREGNANCIES

LEELA PATHAK

PREGNANCY and childbirth have always been the most important events in a woman's life. They have been among the foremost biological events studied and documented in history.

The need for artificially terminating the reproductive function of a human being began to be felt early in the development of human society. Hippocrates in the West and Charaka in India have mentioned the possibilities of sterilisation. Sterilisation has been practised for ages on grounds of health. This was achieved mainly by oral administration of medicines until surgery came to be practised widely in the early decades of the 19th century. Sterilisation used to be performed in women by various types of surgical operations mostly on the Fallopian Tubes which were considered to be a smaller risk than the removal of the Uterus or Ovaries.

It is well understood that the ovum is released by the Ovaries on either side and gets transmitted via the Fallopian Tubes into the Uterus for its fertilisation by the Spermatozoa. The Fallopian tubes receive this ovum in the fimbriated funnel-like end towards the ovary and passes it along its length of 5" to 7" into the uterus. There are two ovaries and two Fallopian Tubes, one on either side of the uterus. Both Fallopian tubes open into the uterus.

Dr. (Mrs.) Pathak is Director-Principal of the Maulana Azad Medical College, New Delhi.

The principle of the operation of sterilisation is to bring about a discontinuity in the passage of the ovum along the fallopian tubes. This is achieved by many different procedures. In many types of operations, after a lapse of time the cut ends of the tube got together and the opening became patent. The ovum could pass on and ultimately result in pregnancy. This happened in 4-5 per cent cases. After much experience, however, the operative procedures have been improved and their widespread use in our country is a modification of a method first started by a surgeon called Pomeroy. In this operation a small piece of the fallopian tube, about 1/4", is removed on either side and the two cut ends are tied off separately. The failure rate of this method is almost nil when it is properly done.

EASY AFTER DELIVERY

This operation called tubectomy can be done at any time in a woman. It is, however, easier to do it soon after the delivery when the tubes attached to the uterus, which is already large in size, are easily detected without disturbing other structures in the abdomen. The abdomen has to be opened to a small length of two inches and this can be done even under local anaesthesia. It is best done in a day or two after delivery so that the woman gets enough rest and attention after the operation. She can be up and move about in two to three days and go home after a week.

It is necessary to know that the same operation can be done in a woman without waiting for a delivery. For this operation the woman

has to stay for seven days in all. An examination by a doctor before the operation is essential. The operation usually done by opening the abdomen can be done through the birth passage also. When the operation is done via the birth passage the scar is not apparent, the healing is quicker and other repairs can be done simultaneously if required. Once the wound has healed nicely and the woman has had a check-up after four weeks, there are hardly any complications that can be caused by the operation.

Nowadays the operation is also performed by using a special instrument through the birth passage. This is done under local anaesthesia and requires the patient's co-operation. The instrument is not always easily available. Arrangements are, however, being made to have this operation brought into popular practice.

IRREVERSIBLE

The operation of tubectomy is ordinarily an irreversible process. It is not for spacing children. To undo the operation is not an easy job. It has been done successfully in some cases by skilled doctors. Technical research is being continued to make it reversible.

The risks of the operation of Tubectomy have been minimised by the advances in surgery. After an operation there is a tendency to attribute to it everything that may go wrong with the normal reproductive function. So far, no specific untoward results of a physical nature have been observed as a result of tubectomy after years of its performance. Loss of reproductive potentiality, however, may upset an occasional woman but such instances are indeed rare.

Forty-three million women have so far been sterilised in the country. Over 90 per cent of the operations are done purely for socio-economic reasons. The average number of living children in these cases has fallen from 4.7 per case in 1960-61 to less than four by 1966.

SCHOOL AS A MEDIUM TO PROPAGATE FAMILY PLANNING

I. C. DHINGRA

Teacher can tell young students about the advantages of a small family.

THE sharp reaction of the Government to our so-called population explosion has been one of dismay and concern. The problem seemed to have appeared in all its awesome proportions when the results of 1961 census were brought before the Government. Not that the Government of India was not aware of the rising population of India even before it, but during the first two Plans period the Government lacked a sense of urgency. From the Third Plan onwards the Government has undertaken the family planning programme in right earnest.

But what is required is that besides fighting this problem as an immediate cause of worry and concern, the Government should adopt a long-term policy. All the success achieved will be nullified if the Government languishes in its efforts.

Not only the existing couples, in reproduction age, have to be motivated to a small family norm but also those in whose hands the reins of our Government will lie 10 to 15 years hence, namely, the school-going children.

Hitherto school education as a media for propagating family planning ideals has been largely ignored. The school, by virtue of its having access to the young mind to influence it in its most formative

period, is in a unique position to fulfil this responsibility of developing in the student attitudes favourable to the small family norm. The school population is in a frame of mind which is ready to learn and receptive to everything new. It is through this ground of individuals that new patterns and norms will evolve.

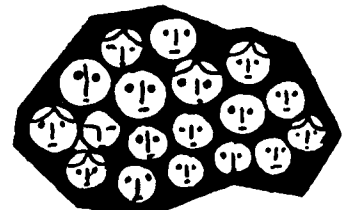
Primarily it will be easier for parents to develop such attitudes among their children favourable towards the small family pattern. But in a country largely populated by those who even feel shy of mentioning the subject even among themselves, it would be too much to expect from the parents to tell their children about it. Under the circumstances, the duty doubly devolves on the school-teacher who has a stabilising and permanent effect on the young minds.

Moreover, school as an institution is capable of reaching a large number of individuals at one time and the school-teacher is considered a leader of thought, specially in rural areas. In such areas, the thinking emanating from *Guruji* will have far-reaching effects on the community though undoubtedly the crossing of their set ideals would meet with a fierce and violent opposition. But tactfully passed on, the effects of the propagation by a

teacher would be much more lasting than that by any other person.

However, it is not to suggest that such a course of education should be set aside as a special subject. That would not be a clever and constructive approach to the problem. The *sine-qua-non* is to impart it as incidental lessons, which come spontaneously as the situation demands. It could also be integrated at suitable points in the pertinent subjects. For example, in a class of economics, while budget-making is being taught, the teacher could ask the students to make two budgets, one for a large family and the other for a small family, with the same income and point out the difference in the share of income coming to the individual. Or in a class of domestic science, the girls can be taught at various stages the need of proper nourishment for children and how it can be provided. In that context also, the teacher can point out the advisability of having small families. Still further, in the class of geography, while discussing the production of food crops, the need for practising a check on the growth of population can be pinpointed. The examples can be multiplied.

Per se, school education, in short, should be geared to meet the objectives framed according to the changing needs of society or the country.



MILLIONS CANNOT BE WRONG

About seven million men and women in the country have taken to family planning, either in the form of sterilisation operations or I.U.C.D.

4.3 million persons have accepted sterilisation and 2.4 million women have accepted the loop.

Seven million obviously cannot be wrong.

RESEARCH : THE ESSENTIAL FACTOR

B. L. RAINA

RESEARCH forms a significant part of an overall integrated health and family planning programme in the country. The extension-oriented family planning programme is based mainly on the results of different studies. These programmes enlist maximum participation from existing workers and from the people in a given area.

The family planning research activities carried out in the country are mainly in the bio-medical, social and demographic, communicational, organisational and operational fields. The emphasis has been on studies which contribute to the implementation and development of the family planning programme. Basic research is also given support.

The emphasis in the bio-medical field is on (a) "development of simple and mass acceptable methods of contraception based on the physiological mechanism of reproduction," and, (b) "establishment of a nation-wide organisational base for reproduction and contraception research". Some attention is also being paid to collect empirical information and to conduct such studies as may be necessary in the qualitative aspects of population, so that children born will be free from serious genetic defects and disorders. Bio-social and bio-psychological studies are being started.

A number of compounds have been tested for their anti-fertility effect. Some studies have been carried out and others are in progress to investigate the mechanism of action, the causes and control of side effects of intra-uterine device, and to test oral contraceptives. Indigenous contraceptives have been reviewed and are being tested.

Attempts are also being made :

(a) to discover new leads for chemical inhibition of fertility through hormonal, biochemical, neuro-endocrinological and immunological studies of ova and ovulation; fertilisation and zygotes; implantation; spermatogenesis, spermatozoa and the male accessories; and sexual behaviour ;

(b) to undertake chemical synthesis, biological evaluation and human trial of potential anti-ovulatory, anti-zygote, anti-implantation, anti-spermatogenic and hypothalamic-blocking agents ;

(c) to develop acceptable and effective intra-uterine and surgical devices of contraception for mass use ;

(d) to establish adequate clinical, laboratory and animal facilities (including infra-human primates) for uninterrupted progress of research in reproduction and contraception ; and

Lt Col. Raina is Director, Central Family Planning Institute, New Delhi.

(e) to establish facilities for imparting general biological knowledge of reproduction to family planning field workers, and specialised training in reproductive physiology to medical and non-medical scientific personnel.

SOCIAL RESEARCH AND DEMOGRAPHY

The major source of information on the demographic situation in India is the decennial census. Sample enquiries through the National Sample Survey and the office of the Registrar General, Government of India, studies by Demographic and Communication and Action Research Centres and others have provided useful information. There are about 300 papers and reports on demographic and communication research.

A number of diagnostic studies have been undertaken with a view to discovering clues needed to initiate action programmes or to improve upon the action programmes in progress. Important methodological studies include measurement of changes in human fertility. The goals of the action research programmes are: (a) to provide an understanding of the basic factors which influence the acceptance of family planning; (b) to use educational knowledge and skills already available so as to develop a more effective family planning programme. This implies a systematic and intensive use of social science research concepts and methods and all other relevant knowledge and skills to develop and maintain an effective, feasible programme for helping people in the field of family planning practice.

Action research does draw upon the concepts, knowledge and research techniques of social sciences. However, much of the knowledge gained in the course of action research activities can also be related back to general theory by suggesting new formulations and can thus contribute to the building of the basic sciences. Action research consumes the material from the field of administration, public health and community development and, in turn, can contribute to these fields.

Action research studies have been carried out both in urban and in rural areas. They include background study of factors influencing family size; study of specific problems which hinder family planning programmes; study of special educational techniques; development, over a period of time; of broad action programmes making full use of educators' skills and also findings from the above studies under conditions of maximum flexibility; experimental testing of given package approaches over a period of time. Major efforts so far have been devoted to the last item, by educators

helped by research workers to build action programmes.

Studies carried out in different action areas are mostly of the short-term type, such as helping to understand and solve specific problems which hinder the progress of programmes or evaluating specific educational methods. At the same time, long-term studies are undertaken for building effective programmes. These seek to identify and measure underlying factors which influence acceptance of family planning to define the general situations in which the educators work and to understand better the educational process.

The diagnostic studies aim at discovering clues for improving the programme effort and are extended to subjects, such as teaching of family planning in medical colleges and training institutions for nurses, family planning clinic studies, family planning in hospital setting, contraceptive depot holder, identification of local leaders, rumours and resistant groups. These studies are continued as an intrinsic part of action programme using a particular technique, method or group of methods.



At the Central Family Planning Institute: Trainees who will on return to their States train field workers.

Fertility surveys are being conducted in selected areas. These along with knowledge attitude and practice studies are being extended. Three sensitive indicators of programme results are used, namely, increase of knowledge or awareness, increase in contraceptive practice including sterilisation and I.U.C.D., and decline in birth rate.

Studies on communication covered those related to inter-personal communication, mass media, combined media, leadership and so on.

Such data as are available suggest that the crude birth rate in 1901-11 was 49.2 per 1,000 and death rate 42.6 per 1,000. The birth rate in 1966 was estimated to be 41.7 and death rate 16. It may not be concluded that this fall in birth rate is an indication of any real change in fertility. The birth may be generally conti-

nuing at the same level as during 1960, but the death rate is estimated to be 16 in 1966. Expectation of life at birth in 1901-11 was around 23 years and in 1968 it is around 51 years.

The average number of children born to an Indian woman continuously in wedlock by the end of her reproductive period is between six and seven. The average for all married women aged 45 and above is between four and five children. There is considerable variation among the different States. According to a report of the National Sample Survey, the average number of children born to urban women in Bihar aged 47 years or over in 1960-61 was 8.5. The lowest figure was 5.6 in Andhra Pradesh.

The Average age at marriage is around 16 years; it is slightly higher in the urban areas. The median age at menopause is between 44 and 45 years. A significant rise in age at marriage will have an impact on average family size.

Information on the incidence of abortion is fragmentary. Often they are just guesses. Assuming that there are 12 abortions per 1,000 population a year—three natural and nine induced—the total number of abortions in India may exceed six millions a year.

The period of post-partum amenorrhoea is one factor that seems to have a significant effect on the level of fertility in the Indian situation. It has been observed that level of completed fertility in India is lower than that of many other countries that have the same low level of contraceptive practice. The interval between births can be markedly affected by the length of amenorrhoea. The average interval between successive terminations of pregnancies from the first to the fifth among women aged 35 years and over at the time of a survey was 2.9 years in Ballygunge and Beniatola, and 3.0 years in Singur. Similar data were also found in the National Sample Survey which showed that among rural couples, married after 1930, the average interval was 34 months between the second and third births, and 33 months between the third and the fourth. These intervals are higher than the spacing observed in other countries. The comparatively longer period of amenorrhoea in Indian women is attributed to the practice of prolonged breast-feeding, dietary habits and general health conditions.

There is a long interval between age at consummation of marriage and termination of first pregnancy for women marrying very young. The extent of primary sterility is around 10 per cent. There is general lack of information on biological factors effecting fertility. Some information is available on age at menarche, menopause, adolescent sterility, reproductive wastage period of amenorrhoea. Sociologists and biologists have to join hands to develop bio-sociological and bio-psychological studies. Many forces—institutional, biological, social and psychological—are operating, some increasing fertility and others tending to reduce it.

There is a negative correlation between education, especially of women, and fertility. The National Sample Survey 1960-61 indicated that for women aged 47 years or over the number of live births to illiterate women and those with education up to primary level was 6.6.

Corresponding figures for women with middle and high school level education were 5.0 and 4.6 respectively, and for women with university education it was as low as 2.

It seems that fertility tends to increase till a certain level of per capita income is reached after which it shows a tendency to decline.

MIGRATION ABROAD

International migration has been negligible. Growth of population has been due mainly to the difference between birth rates and death rates. A number of mobility studies have provided interesting information. Urbanisation on any appreciable extent has not yet taken place. It is stated that economic factors seem to be pulling people to urban areas, and also living conditions and unemployment in urban areas are pushing them back to the rural areas. Some feel that the pull and push explanation may be an over-simplification of a complex problem. It is also observed that many rural migrants continue to have a rural fertility pattern for a considerable period. Migration itself may be a process of establishing an equilibrium and is conditioned by various factors.

It appears that the more educated and the younger persons are moving out of villages. Uncontrolled migration to urban areas is leading to mushroom clusters of makeshift and poor dwellings without any services, leading to insanitary conditions, crime, disease, social disorganisation and social instability. One of the disturbing features of a study of West Bengal data by Cumudini Dandekar was that at least 10 per cent of the male married population were living without spouses mainly due to economic reason.

Although Knowledge and Attitude Practice studies vary in both methodology and samples, they indicate general trends. A large proportion of the population is now aware of some type of contraceptive method. There is no significant religious, cultural, economic or political opposition. There may be isolated small groups opposed to the idea or a specific method. Three to four children are considered to be ideal. Those with four children are more supportive to family limitation than others.

STUDIES ON I.U.C.D.

About 2.45 million I.U.C.D. insertions were reported up to May 1968. Allowing for drop-outs, 1.5 million women may be protected, that is, approximately 2.9 per cent of the eligible couples. The median age group of I.U.C.D. acceptors at the time of first insertion was reported to be 25 to 29 years. The average number of children of the acceptors was four. In the case of 40 to 50 per cent of the acceptors there were no complaints. Among those who complained, more than 50 per cent referred to bleeding and pain. The retention rate after 24 months was between 50 to 65 per cent. Punjab ranks highest in I.U.C.D. insertion with 25.7 per 1,000 followed by Haryana with 12.1. Other notable States include Mysore—7.4, Jammu and Kashmir—6.6, Maharashtra—6.3, West Bengal—6.6, Assam—6.1, and Kerala and Gujarat—5.7.

The number of sterilisation operations reported since 1956 is over four million. Up to 1960 tubecto-

mies (female sterilisations) were more than half of all sterilisations. Thereafter there was a swing in the sex ratio. By 1965, vasectomies formed over 84 per cent of all sterilisation cases. It is estimated that 8.3 sterilisations per 1,000 population have been done so far. Madras is leading with 17.9 per 1,000, closely followed by Maharashtra with 14.7. Other States with appreciable numbers are Orissa (11.6), Kerala (11.0), Punjab (10.0) Gujarat (9.5) Madhya Pradesh (9.1) and Mysore (8.5).

The median age for vasectomy is 35-39 years for the husband and 30-33 years for the wife; for tubectomy it is 31 years. The mean number of children in both cases is five. The estimated percentage of couples protected by the combined programme of sterilisation and I.U.C.D. is 10.4 (including 7.5 per cent for sterilisation).

REDUCTION IN BIRTH RATE

Social change seems to occur first in skilled groups, then in semi-skilled groups and finally in unskilled groups. Although this may be an over-simplification of a complex process it seems to be the general process of transition. Studies indicate that the reduction of birth rate has occurred in groups in the high or socio-economic level. The trend is perceptible in some cities. In areas where the extended family planning programme has been carried out for a few years a decline in the birth rate has been reported; for example, in Athoor Block, Gandhigram, it fell from 40.2 to 35.4 during 1959-64 and in Singur (West Bengal) from 42 to 34 during 1958-66. The recent report from the plantations of the Assam Branch of the Indian Tea Association indicates a reduction from 43.4 in 1960 to 25.6 in 1967. Such a marked reduction needs further examination.

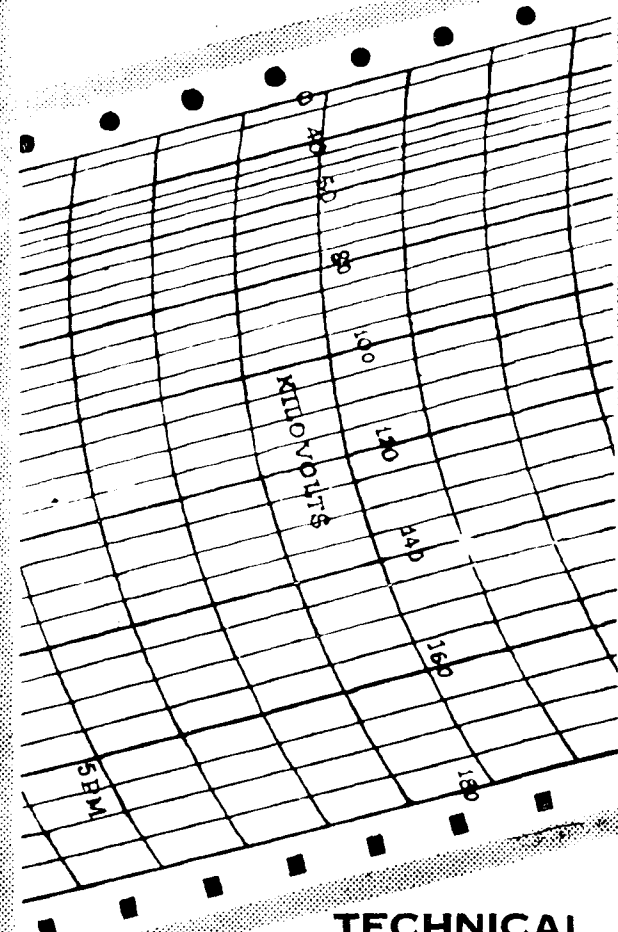
PROGRAMME OPERATION

It has been demonstrated that the reduction of fertility can be achieved by creating three basic conditions on a mass scale: (a) each individual should know and feel that the immediate society or community to which he belongs has agreed as a group that having a smaller family size is the normal, desirable behaviour for each member of that group; (b) they should know that a smaller family is valuable for various personal reasons. The need for conformity to group norms of family size is value enough to justify action for most individuals. People should know that smaller family size helps them to achieve other values such as economic welfare and better health. They should further have knowledge about specific methods of birth control—their limitations and effectiveness; and (c) supplies and services should be available within easy reach.

It should be appreciated widely that one feature that emerges repeatedly is that to achieve reduction in birth, emphasis should be laid on group level education approaches, extension of contraceptive supply lines and services, provision for statistical feed-back, and an understanding of the determinants of fertility behaviour.

A specific family planning discipline at individual level involves resolving of conflicting needs, values and

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motives—some favourable and others not favourable.
Favourable: (i) Confidence in one's ability to mould one's ability to mould one's destiny, (ii) Rational, (iii) More children act as drain on existing resources, (iv) Fewer children better chances to bring them up well, (v) Social disapproval of mother-in-law becoming pregnant, (vi) Well informed regarding easy availability, effectiveness and extent of use of contraceptives.

Unfavourable: (i) Firm faith in fate, (ii) Immoral, unnatural, irreligious, (iii) More children, more earners, (iv) Some children may die—parents' concern for security in old age, concern for continuity of the family tree by having sons, (v) Children as evidence of virility, (vi) Lack of information and rumours.

In programme operation, the available methodologies with focus on extension approach (identifying local leaders, and designating them as aids, helpers, sahayaks (not leaders), training them to act as effective change agents for a well-defined limited group of households, and as a vital link between the householders and service agency) need adoption on a large scale. Incentives should be viewed as temporary expedients. There is need to evaluate and evolve a balanced mix of extension education and mass communication.

ORGANISATION AND FUNDS

Bio-medical research is dealt with mainly by the Indian Council of Medical Research (ICMR). At present there are two expert groups which deal with current research studies supported by the Department of Family Planning in the Ministry of Health, Family Planning and Urban Development. They are the Expert Group on the Scientific Aspects of Family Planning of the ICMR and the Demographic and Communication Action Research Committee (D.C.A.R.C.) of the Family Planning Department. The Commissioner, Family Planning, is a member of both the committees. In order to maintain co-ordination and organic unity in the field of research in family planning, the Director of the Central Family Planning Institute (C.F.P.I.) serves as the member-secretary of the D.C.A.R.C. and the C.F.P.I. serves as the secretariat to this Committee.

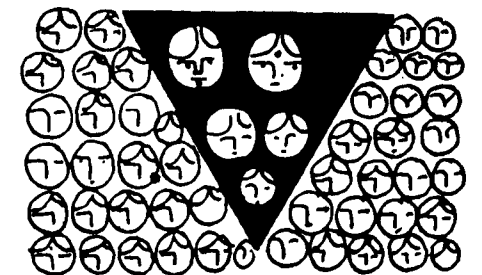
The Department of Family Planning has placed funds at the disposal of ICMR for giving financial support to researchers. In respect of demographic and communication action-research studies grants are issued by the Department of Family Planning on the recommendation of the D.C.A.R. Committee. The Family Planning Department also gives direct grants to institutions after they are examined by expert groups. Resources for research and evaluation are provided mainly by the Family Planning Department. Valuable assistance has also been received from international agencies.

Research has to be continued vigorously in areas such as development of methods of communication, improvement of birth control methods, determination of factors conditioning fertility, understanding of basic human behaviour and reproductive biological processes, sharpening tools for measuring changes, and others. There is however sufficient information available, based on research, to proceed with confidence to achieve the objective of controlling fertility.

More People Means

LOW QUALITY AND WASTAGE IN EDUCATION

K. B. SURI



THE current debate on economic development, which started after the Second World War in the context of the war-shattered communities as well as the emerging free nations of Asia and Africa, has brought into focus the role of education, on the one hand, and population change, on the other. It is now widely accepted that education makes a significant contribution to the socio-economic transformation of nations. It is equally evident that population change, particularly in countries with a large population base and high density, acts as an obstacle to economic progress. The inter-relationships between education and population change from the viewpoint of the efforts of the developing countries to improve levels of living needs examination.

ROLE OF EDUCATION

Researches conducted in the recent past have established the economic productivity of education so that investments in human capital are considered as important as those in physical capital. It has become quite evident that a community cannot go very far towards economic progress without raising simultaneously the quality of its human material in the form of levels of literacy and the availability of required number of scientific, technical and managerial skills.

The experiences of Soviet Russia, West Germany, the Scandinavian

Mr. Suri is a Demographer working with the Ford Foundation, New Delhi.

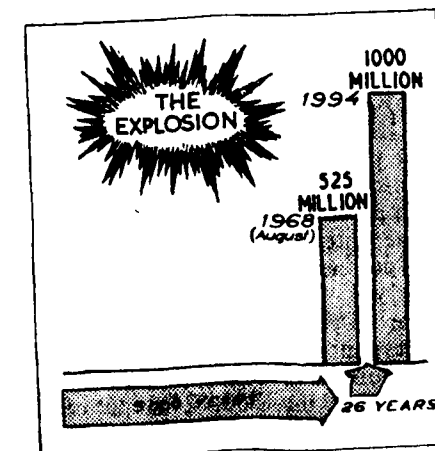
countries and Japan have shown that education needs to be given an appropriate place in the conscious or planned effort both in terms of financial outlays and the content of educational programmes. The Japanese experience after the Meiji Restora-

in life by dint of their ability and hard work.

POPULATION CHANGES

How are the physical and financial needs of educational development, affected and modified by the parallel changes in the size and structure of population, experienced by the developing countries? In order to answer this question it is necessary to understand the process of population change in the developing countries and the manner in which it differs from the pattern of demographic transition in the West during the industrial evolution. The developing countries of today are passing through the initial phase of demographic change in terms of marked declines in the incidence of mortality. But, unlike the West, where death rates fell after an improvement in the economic conditions, the changes in mortality are the result of large-scale import and application of revolutionary advances in preventive and curative medicine and not of any palpable change in their economic situation.

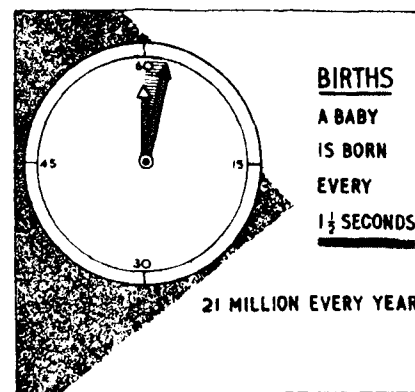
The very changes in the economic structure of the western countries, which had caused death rates to fall, also eventually led these countries to the next phase of demographic change characterised by corresponding declines in fertility. The Western countries had completed their evolution from pre-industrial high levels of mortality and fertility and the consequent low rates of population growth to low incidence of



tion in 1868 is of particular interest insofar as it brings to light the part played by education to overcome unfavourable social and economic conditions during Japan's "take-off" period. The Japanese taught in their schools virtues like diligence, thrift, and application to studies by citing examples from their recent history. This discouraged wasteful spending, encouraged saving as a commendable virtue and contributed towards effecting an increase in the rate of national savings so essential for the rapid development of the economy. Besides, the examples from historical figures gave the pupils hope and encouraged them to achieve success

mortality and a corresponding low level of fertility performance, compatible with the needs and urges of modern, industrialised communities. This was followed by a stabilisation of the rates of population increase at low levels.

The situation in the developing countries is best described by what is popularly known as the "population explosion". The decline in the mortality rate in these countries is occurring more rapidly than it did in the industrialised countries. The fertility performance in most developing countries has recorded little change from the old high levels. The result is a sudden, but formidable, increase in the rate of population growth. This process of population increase is gathering momentum because of the unchanging high birth rate and falling death rate. The character of



based distribution that tapers off rapidly with age, whereas low levels of fertility give a narrow-based age distribution, the latter implying a much lower proportion of children under 15 years. Unfortunately, changes in the mortality pattern that are taking place in the developing countries, with more than proportionate reduction of mortality among infants and children, also add to the dependency burden. The Indian experience on this point is quite revealing. On account of the persistent high level of fertility during 1891-1951 (above 40 per 1000) and in spite of fluctuations in the level of mortality during the same period, the fraction of the population under 15 years varied between 38.4 percent and 39.3 per cent in the interval 1891-1921, and was 38.3 per cent in 1951. According to the 1961 census, the proportion under 15 years is 49.21 percent. The corresponding figure for United Kingdom in 1966 was 23.6 per cent, for France in 1966, 24.6 per cent, and for the United States in 1966, 30.5 per cent.⁵

It is obvious that the relatively high proportion of children in the developing countries implies also a comparatively low proportion in

working ages, and, therefore, a much higher educational burden for each individual of the working age. Most of the developing countries are heavily committed to comprehensive programmes of educational development, like universal elementary or primary (education or high targets of student enrolment at higher stages of school education.) The growing base of the population increases their burden as time passes. Besides, to the extent that a part of the cost of education is borne by parents, the growing number of children in the family consequent upon declining infant and child mortality and high birth rate increases the educational expenditure of households, reduces their capacity to save, and impinges on the community's investible resources.

LIMITED RESOURCES

The pattern of population change in the developing country of Asia, Africa and Latin America, with growing proportions under 15 years, increases the educational burden of the community. With their limited means and heavy commitments in various directions, these nations are required to divert their resources from more pressing and probably more productive (in the short run at least) uses. In the alternative, the resources allocated for education fall short of their growing requirements and either delay the fulfilment of the set educational targets or are spread over larger numbers, causing deterioration in quality and wastage.

One may argue that the expenditure on education is after all an investment in human capital which raises the economic productivity of human material and leads to economic development. One must, however, remember that educational needs have of necessity to compete with other objectives which may be more productive in the short run. The change in the size and structure of population renders the task of raising the quality of population, in terms of educational attainments, more difficult. Besides, the spreading of given resources over large numbers acts as a brake on effecting changes in the content of education and thus limits its role in economic development.

India has 2.4% of the world's land area to support 14% of the world population with 1 1/2% of the world income.

ANDHRA SETS WORLD RECORD IN STERILISATION

Andhra Pradesh holds the world record for the number of female sterilisation operations performed in a single day-camp. At the Gannavaram Camp near Vijayawada in October last year 2,000 working women were performed by two teams of doctors working round the clock. These doctors were selected from those all over the State who had performed more than 200 vasectomy operations.

The Panchayat Samiti, Gannavaram, pioneered the camp by intensive motivational work.

population change in an environment of an almost stagnant economy also renders the occurrence of the much-needed transition to low fertility performance quite uncertain.

EDUCATIONAL BURDEN

What is relevant from the viewpoint of the educational burden on a population is not just the fast-growing size of the population, but also the accompanying changes in its age structure. In a closed population the principal determinant of age distribution is fertility. Persistent high levels of fertility lead to a broad

PLANNING FORUMS

Survey

Rich Resources Poor People

THE Gandhian Institute of Studies, Varanasi, has carried out an exhaustive socio-economic survey of the hilly region of Mirzapur district in Uttar Pradesh, in which it has brought out some basic facts which when attended to might help to initiate steps which will better the living conditions of the people here.

Unlike other backward areas, a major part of this district is rich in developmental potential. It has thick and dense forest where all varieties and plants of industrial value are to be found. Even minerals like mica, caustic soda, lime and others are found here. Unfortunately, however, these valuable resources are yet waiting to be tapped.

TRIBAL POPULATION

A majority of the inhabitants of this region are tribals who usually live in a cluster by the side of their agricultural farms. Since wells are few and far between, the people meet their water requirements from some water channel or nearby waterlogged area. The most remarkable feature of this region is that every household has some land to cultivate and the people here work both as cultivators and as labourers. The size of holding generally varies from five to twelve bighas, and each cultivator has, on an average, more than five heads of cattle.

AGRICULTURE

Though agriculture is primitive and there are hardly any means of irrigation in this region, it is still the primary occupation of the majority of people. Village industries are few and provide employment to hardly five per cent of the people, and their contribution to the income of the people is almost insignificant.

Mainly two crops, kharif and rabi, are grown here, providing employment for two to six months in a year. However, big landholders, having twenty bighas or more, are engaged for about six months or so in a year on various agricultural operations. About eight per cent of the village working force is employed in animal husbandry due to the comparatively larger number of cattle in the region. However, nearly 70 per cent of the region's working force and their children get a chance of employment in the forest for about three months in a year.

Despite the number of industrial townships which have grown in this region, the local labour force has not benefited much monetarily. Most of these factories require skilled workers which are usually not available in this region.

However some employment potential has been created by the factories in the area and the soil conservation and minor irrigation projects sponsored by the Government.

LIVING CONDITIONS DEPLORABLE

Though the people of the region are in a sense fully employed throughout the year, still their living conditions are deplorable. Their income is insufficient even to meet the basic necessities of life. On account of the non-availability of part-time jobs, there is no way for the older people and women to supplement their meagre incomes.

Since the area is rich in natural resources there is unlimited scope for bettering the lot of the people. What is absolutely essential to eradicate this poverty in the midst of plenty is to provide the people with the basic amenities of life. Educational facilities, provision of drinking water wells, health and medical facilities and other social amenities are alarmingly meagre in this area. For proper tapping of the resources in this region, the development of transportation and communication facilities is equally necessary.

Jambusar Suffers from Poverty and Indebtedness

A random socio-economic survey of Jambusar, a town near

Baroda, has brought to light some interesting facts. The town has been a trading centre since times immemorial. Even now, people from adjoining areas come to its small market for trading their surplus agricultural products. Out of the 400 families which were interviewed, nearly 60 per cent were found to be under debt of one kind or another.

The only civil authority in the town is a Nagar Panchayat. Thus, the opportunities of Government or semi-Government employment are very limited, forcing the local population to depend for their livelihood on small and big business opportunities that exist there.

CHIEF SOURCE OF INCOME

Business is the chief source of income for the majority of its residents. Only about 35 per cent of the people are engaged in services. The per capita income of 85 per cent of the people is below Rs 250, out of which 35 per cent get even less than Rs 100. Majority of the people are under-employed. Though quite a few of its residents have taken loans for business purposes, social expenses form an important reason for the prevalent indebtedness.

The average size of the family is seven. Family planning drive has made little or no impact. This is probably due to poor publicity.

Because of a rise in the total demand for the essential necessities of life as a result of the employees of the Oil and Natural Gas Commission, who have come and settled in Jambusar since 1965, the traders of Jambusar are doing better than before. The house owners, have enhanced their rents and are getting more income. However, due to a continuous drought in this Taluka for the last two years, there has not been much improvement in the general condition of the people.

A PARADOX

The residents are extremely dissatisfied with the relief measures taken by the Government to relieve unemployment in this town. Paradoxically enough, however, most of them are reluctant to make use of the facilities extended by the local employment exchange.

BOOKS

Patterns of Population Change

Patterns of Population Change in India, 1951-61. Edited by Dr Ashish Bose. Pages 403. Published by Allied Publishers, New Delhi.

A. N. Mehra

THIS book contains the papers discussed at the Second All India Seminar on Population organised by the Institute of Economic Growth in 1964. Though somewhat delayed, the volume is a welcome addition to literature on an important subject. The papers have been grouped into three parts, each dealing with a separate subject: the growth and distribution of population, labour force and occupational structure, and a number of selected topics.

Mr S. P. Jain in his paper says that constant growth rate of Indian population between 11-14 per cent during the three decades preceding the advent of planning era led the Planning Commission to frame the First and Second Plans on the assumption of lower growth rates operating in the succeeding decades. The results of the fourteenth Round of National Sample Survey showing a growth rate of 1.9 per cent per annum made a good case for revision of population estimates for plan purposes in 1959. In order to avoid such confusion, he makes a plea for the collection of more reliable data through well-planned surveys. Though the growth rate of 21.5 per cent during 1951-61 caused a feeling of disquiet, rates around 20 per cent were recorded by some of the States in the earlier decades. When the death rates in States like Uttar Pradesh, Bihar and Madhya Pradesh come down to levels which have already been attained in some other States, the population will increase rapidly in future. The possibility of such a development calls for concerted action in the field of family planning.

Dr Ashish Bose observes the phenomenon of "declining" towns in his paper on Patterns of Urban Growth, 1951-61. A majority of

the declining towns belong to urban areas having population below 20,000. The role of small towns (population below 20,000) in slowing down the process of urbanisation needs to be examined in detail. According to Bose, this aspect receives detailed attention in the census monograph on small towns of India which he is preparing. The small towns had a major share of declining towns. These accounted for 75.2 per cent of the total population of such towns. The aggregate population of 497 new towns classified for the first time in 1961 was 4.8 million. Here again, the majority of these towns had population below 20,000.

Dr Zachariah and Mr Ambanavar in their paper study redistribution of population in India during 1951-61 and maintain that it is both a consequence and cause of social and economic change. The total inter-State redistribution which was of the order of 9.2 million was made up partly by differential nature increase and partly by migration between States. The level of rural-urban migration recorded a decline from 8.2 million in the decade 1941-51 to 5.2 million during 1951-61. On the other hand, the inter-State migration seems to have increased. These contradictory trends need close scrutiny.

Mr Asok Mitra in his paper analyses the shift from agriculture to non-agriculture during 1951-61. The industrial categories which have recorded this shift and the regions most affected thereby receive exhaustive treatment.

Two papers deal with variations in sex-ratio since 1901. A slight excess of males over females at birth has been observed in almost all countries having an efficient system of vital registration. This trend tends to be compensated by

higher male mortality at other ages. In the absence of any sex-selective migration, the sex-ratio of a population should be nearly unity. To explain the anomaly of excess of males over females in India, which is unlike the position in the western countries, Dr. Visaria examines whether it is due to under-enumeration of females, higher birth rate for males or the different sex pattern of mortality. On the basis of available evidence which is closely scrutinised, he concludes that it is due to excess female mortality.

The book will be found useful by those who look for rigorous analysis of the 1961 census data.

Research in Family Planning

Research in Family Planning in India by Dr. K. G. Krishnamurthy. Published by Sterling Publishers (Pvt.) Ltd., 695, Model Town, Jullundur. Pages 108. Price Rs. 15.00

G. Mukherjee

THE importance of the family planning programme for the country's economic development and for the happiness and prosperity of the people cannot be emphasised too much. In fact, it is evident that the significant gains made in agriculture and other spheres have been largely offset by the population explosion. In this context, studies and research on the problems of family planning are of importance, both to policy-makers and students of sociology.

The book under review is of special merit because it brings together the large volume of research that has been done in India on the various aspects of the problem; and is certain to be of considerable value to scholars and research workers. The author has classified the material under four broad categories—attitudes, fertility, contraception and communication. The author has shown remarkable objectivity

in dealing with facts and inferences.

Dr. Krishnamurthy points out at despite increasing awareness of the need for family planning, the phenomenal increase in allocation funds and the growing popularity of contraceptives, there has not been much progress in reducing the widening gulf between effort and realisation. He concedes that lack of knowledge and psycho-socio-economic factors, on the one hand, and absence of co-ordination between policy, formulation-cum-implementation, and research activities, on the other, seem to be responsible for this unsatisfactory situation.

If the foreword by Dr. S. Chandrasekhar reflects the thinking of the policy-makers, then there is no reason why endeavours of Dr. Krishnamurthy and others like him in the field should not accelerate progress. The publication is stimulating and deserves to be read by those engaged in the family planning programme.

POPULATION : Facts, Problem and Policy

India's Population : Facts, Problem and Policy: S. Chandrasekhar. Teenakshi Prakashan. Pages viii + 6. Price Rs. 6.

K. D. Sharma

SINCE the country adopted family planning as the means for development, it has made continuous attempts to check its rapidly growing population. The results of these attempts have been far from satisfactory. They have baffled the planners. The vicious circle of low incomes, under-nourishment and ill-health resulting in low productivity of labour has still not relinquished its hold over the country. Therefore, any attempt to discuss the problem of population control should be welcomed. The booklet under review, as the title indicates, attempts a study of the problem and also the policy issues involved in tackling the population explosion. This book by an author of such eminence as Dr. Chandrasekhar

OTHER BOOKS RECEIVED

Taxation in India—A collection of Forum of Free Enterprise publications. Published by Popular Prakashan, Bombay-34. 231 pages. Rs. 15.

Trading with the World—Published by the Indian Institute of Foreign Trade, New Delhi. 560 pages. Rs. 19.75.

Changes in Direct Tax Laws Arising from the Finance Act, 1968. Published by the Southern India Chamber of Commerce and Industry, Madras-1. 43 pages. Rs. 2.

Handloom Industry in Madhya Pradesh by K. R. Nanekar. Published by Nagpur University, Nagpur. 186 pages. Rs. 12.

FAO Commodity Review 1968. Published by Food & Agriculture Organisation of the United Nations, Rome. 229 pages.

Foreign Trade and the National Economy by Charles P. Kindleberger. 264 pages. Rs. 6. *The Tragedy of Indian Rupee* by R.J. Venkateswaran. 131 pages. Rs. 9. *Introduction to Vocational Economics* by B.N. Pal. 301 pages. Rs. 15. All published by Vora & Co. Publishers Pvt. Limited, Bombay.

Changes in Mikir Society by Padma Dhar Saikia. Published by Agro-economic Research Center for North East India, Jorhat. 82 pages. Rs. 8.

should reflect the scholarship of its author. However, Dr. Chandrasekhar has given a mundane treatment to the problem. May be, it is an excellent exposition of the facts of population growth in India and its impact on the Indian economy for consumption by foreign audience.

The issue of population and its growth in the country have been discussed at length in the book, which views the problem in its historical perspective. A lucid, crisp summary of the policy followed till now and the increasing emphasis on population control (i.e. family planning) programmes by the Planning Commission is flattering to read. However, the efficacy of the programme lies in its results and not in the magnitude of it. What the country lacks today is a family planning programme that is suitable to the culture and the genius of the soil. A blanket programme on a national basis may succeed in part but would not make any visible impact on a national basis. The book fails to spell out even the problems involved in working out such a programme.

Secondly, the family planning programme, worked in isolation, may not also succeed. To make a really viable family planning programme, it should form part and parcel of the rural education programme, particularly that of women's education. Economic incentives alone would not achieve the desired goals.

Thirdly, the family planning programmes should be followed by "Social security and welfare" programmes like old-age pension. The author touches these issues only in passing.

To sum up, it is a good booklet, addressed to the common man, that brings out the problems but does not delineate the solution and policies desired.

Population Explosion and the Economy

Population by Dr. S.N. Agarwala. Published by the National Book Trust, India, New Delhi. 137 pages. Price Rs. 3.75.

P.C. ROY

POPULATION studies in India have become extremely important and significant in the context of our developing economy and family planning programmes. More than 17 years of planned effort to achieve self-sufficiency in different spheres of economic activities has revealed the dismal fact that whatever progress we have made has been eroded by the rapid population increase. During the three Plan periods, agricultural production increased from 51 million tons in 1950-51 to 88 million tons in 1964-65. The index number of industrial production increased from 74 in 1951 to 175 in 1964. The national income rose from Rs. 88.5 billion in 1950-51 to Rs. 139.1 billion in 1963-64 at 1948-49 prices. But during this period population also increased from 361 million in 1951 to 486 million in 1965. As a result, the national economy has failed to gather the requisite momentum for growth. Per capita availability of food increased from 14 oz. per day in 1950 to only 15.7 oz. per day in

1964-65. The per capita national income at 1948-49 prices increased from Rs. 247.5 in 1951 to only Rs. 299.8 in 1964.

In the book under review, Dr. Agarwala has ably pointed out the stark reality and gravity of the current Indian situation. Mainly concerned with the problem of India's population growth and family planning programmes, he has appropriately given in the first two chapters a short and succinct discussion on population theories and economic development in underdeveloped countries where the repercussions of industrialisation and increased wealth upon the birth rate have yet to make any visible impact. The growth of India's population is indeed "explosive". Since Independence India has added roughly 160 million to its population, a figure equivalent to the combined population of Pakistan, Burma, Ceylon and Nepal. During the 1951-61 decade India's population increased by 78 million, which was roughly the population of Pakistan at the time of Partition. Every year 11 million people are added to our population, or numerically the population of a new Ceylon.

The factors which account for such dangerous leaps in population figures have been carefully analysed by the author. Besides the low age at marriage, high birth rate and declining rate of mortality, we have to note the slow pace of urbanisation in the country. Urbanisation, as Dr. Agarwala defines, should not be used narrowly in the sense of a movement of people from rural areas to urban areas. In urban socialisation the newcomers participate in new social forms and institutions, learn new disciplines and develop new ideas. Gradually this urban influence penetrates into the rural areas. This process of urbanisation, which leads to rational thinking and to lower birth rates, has not yet begun in our country.

India is undoubtedly faced with the danger of a rapidly increasing multitude. Despite efforts at economic planning, it is not possible to maintain the population at a rising level of living. At least one in every four and probably one in every

three is undernourished. It is the sheer weight of numbers which has retarded the operation of the constitutional directive to provide free and compulsory education for all children of ages 6-13 by the end of 1968. The problem of finding employment for the growing numbers has proved equally difficult. It is in the fitness of things that the Government of India has undertaken a family planning programme to reduce the birth rate from 42 per thousand to 25 per thousand.

The author, in the concluding chapters, has dwelt on the promotional efforts of the Government to make the movement for birth control popular and effective. Roughly twenty-seven family planning attitude surveys, so far completed in India, have yielded the encouraging conclusion that the people, both in the urban and rural areas, are keenly conscious of the need for family planning. They have the desire to learn the method to control pregnancies. The current programmes are based on "Extension Approach", which is designed to

influence the behaviour of the people so that they may willingly respond to action according to scheduled programmes. As the problem of population cannot be solved by one method, the Government of India has provided extensive facilities to men and women in the reproductive age-group to adopt any of the methods to control birth. The efficacy of methods like sterilisation, IUCD etc. have been discussed in detail. Even the effect of a "birth holiday for 5 years" has been referred to by the author who thinks that a multi-disciplinary approach to the problem of population is likely to evolve a more effective policy. The inclusion of Trachoma (p.54) among the diseases which cause death is a mistake which could have been avoided.

A few informative diagrams and an index have enhanced the value of the book, which apart from its appeal to general readers, would be extremely useful to those engaged in the family planning movement.

ASIAN PROBLEMS

Asia's Population Problems (with a Discussion on Population and Immigration in Australia). Edited by S. Chandrasekhar (London: George Allen and Unwin and New York: Frederick Praeger, 1967). 325 pages. 45 Sh; Rs 40.

THIS book comprises an impressive collection of essays on the population problem facing several Asian countries—China, India, Japan, Indonesia, Pakistan, Malaysia and Taiwan. The introductory chapter is a survey by Dr Chandrasekhar on 'Asia's Population Problems and Solutions'. Besides this, Dr Chandrasekhar's chapter on China provides an insight into the political demography of China. "China's traditional desire for expansion, communist ideology and population pressure are an alarming combination. In a sense, China's population is Asia's Problem", says Dr Chandrasekhar.

In the chapter on India, Dr Chandrasekhar pleads for a separate Population Ministry (this was written before he became Minister for Health and Family Planning) and interestingly enough he observes:

"Given dynamic leadership—civil servants in a vast bureaucracy usually adjust their attitudes and pace to the Minister-in-charge—this (success of family planning) can be accomplished."

Anwar Iqbal Qureshi explains the objective of Pakistan's family planning programme as aimed to "bring down the birth rate from 55 to 45 per 1,000. The programme is to be implemented during country's Third Five Year Plan.

The last three chapters are devoted to Australia's population and Immigration Policy. Two Australian scholars, Anthony Ross and Kenneth Rivett, discuss the White Australia policy frankly.

The book, dedicated to the Prime Minister, Mrs Indira Gandhi, is extremely readable. It is a must for all colleges and libraries and should be in the hands of all those who are interested in the population problem of India and her neighbours. For, on the success of family planning, rests the success of the development programmes of India and her neighbours. A.B.)

THIS INDIA

YOJANA invites contributions to this feature from its readers. Each anecdote must be true to life, of less than two hundred words, capturing something significant of India's rich and varied life. Each published anecdote will be paid for.

During last Saraswati Puja some of my school friends and I went to a village named Kurulia to hire drums for Puja. Kurulia is about two miles from the Durgapur steel township.

After completing our work, as we were about to return from there, one of my friends felt very thirsty. We asked a little boy who was playing by the side of the road, to get us a glass of water. The boy ran to his house. After some time he came with some Gur and a bowl of water. First he gave, the Gur to my friend. When he refused to take it, the boy said that it was their custom not to give mere water to anyone. My friend had to take water with the Gur.

Bhagalpur, Bihar ANIL KUMAR BIDYARTHY

The telephone caller did not reveal his identity to me. "Now it is 9 p.m.", he said, "and in about 2 hours' time your cash office will be raided by a gang. Don't say you have not been warned." I desperately wanted him to give me more details, but the man cut me short and slammed the receiver.

I was then the Divisional Accounts Officer posted in an important town in Bihar. My charge included safe keeping of Government cash lying in the local railway cash office. A panic-stricken Divisional Cashier informed me on phone that the amount lying in the cash office that night exceeded Rs 20 lakh.

The next hour was spent in establishing contacts with the G.R.P. and local police authorities, besides the Security Officer who headed the local R.P.F. team. A strong contingent of policemen was put on duty to guard the cash office situated on the railway platform.

At 11 p.m. when I visited the platform, I found that except for the policemen the place was otherwise empty, as the last important train had already left. I peeped into

the third class waiting room adjacent to the cash office and took an inventory. An old man, drowsy but watchful, sitting beside a young woman, literally covered with ornaments and fast asleep on a bench, were the only occupants; obviously unaware of the tension around.

The pale-faced Divisional Cashier was still at his post. I left instructions to be called at any hour, should it become necessary.

The night passed off peacefully. At 5 a.m. next day when I again visited the platform, I found the policemen still keeping guard and fighting sleep desperately. There was a trace of disappointment on their faces as if the other party had failed to fulfil the contract.

At eleven in the morning, I heard the same voice again on the telephone. "Sorry, I played a ruse", the man said, "but you know, I had to spend the night on the platform with my daughter who was carrying ornaments valued at more than Rs. 50,000. And she was being followed by a group of men all the way from my village.

I knew I would not get protection if I had wanted it for her safety." Calcutta AROONAVA DAS GUPTA

It was the office-hour rush in the Bombay suburban local train. As usual it was overfilled and thousands of passengers were hanging on to the doorways. Suddenly the train came to a halt. Tempers were frayed, the sultry weather adding more heat to it. Criticisms reached a feverish pitch and were thrown against everything in the world. Comments came in quick succession: on corruption, nepotism and lethargy of Government servants. All these seemed to be advanced as reasons for the unscheduled stoppage. "There is no other solution for the heavy rush on trains and their unpunctuality except an underground railway system as in many important cities of the world," someone commented. The discussion veered round the idea for some time. Above the din rose a voice which said "Are bhai, the city's underground water and drainage systems are not working properly and it is not likely to improve in the near future, and here you are talking of underground railway system!"

Bombay R.D. PRADHAN

A gentleman entered the room of the Block Development Officer with a lighted cigarette in hand. He found the local Tahsildar in the B.D.O.'s seat. Immediately he threw away the lighted cigarette, removed the shawl from his shoulders, folded his arms and stood away half-bent. The Officer looked at him and smiled. The man looked astonished. He asked: "Sir, how are you here? I wanted to see the B.D.O." The officer replied: "Yes, I got a transfer and now I am the B.D.O. here."

Immediately the man stood erect, replaced the shawl on his shoulders, sat on the chair, took out a cigarette and lit it.

The B.D.O. smiled. Sasthamcotta, Kerala M. P. SAHIB

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and rededicates itself to the service of the Nation by manufacturing the whole range of heavy electrical equipment to speed up the vital projects for National prosperity.

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INDIA AND LATIN AMERICA

HARTIRATH SINGH

On September 21 the Prime Minister, Mrs Indira Gandhi, is leaving on a three-week tour of Argentina, Brazil, Chile, Colombia, Guyana, Peru, Trinidad and Tobago, Uruguay and Venezuela. This first-ever visit by the Head of the Indian Government to Latin America is a bold and imaginative initiative to strengthen the economic and cultural ties with the countries of the region. The total absence of political problems between India and the Latin American countries and the increasing collaboration in the economic sphere augur well for the historic visit.

Similar Problems But Little Trade

INDIA and Latin America constitute two very important regions of the world. India, with a population of 525 million and a size so big that it is described as a sub-continent, imports annually goods and services worth 2.7 billion U.S. dollars. Latin America, consisting of 20 Republics and a population of about 200 million, absorbs annually imports worth 10 billion U.S. dollars. Both the regions thus account for a big chunk of world exports, but, strange as it is, Indo-Latin American trade hardly touches the figure of 18 million U.S. dollars in either direction. Being underdeveloped, India and Latin America have chosen the path of planning as the surest means to rapid industrialisation. It is, therefore, natural that they should come closer together to share experience in planning techniques and processes and technical know-how. The commerce of ideas in such cases always finds concrete expression in the exchange of products, to the mutual benefit of the two sides.

GEOGRAPHICAL CONCENTRATION

India's trade with the Latin-American countries, country-wise as well as commodity-wise, has certain characteristics, which are entirely different from those with other regions. For instance, although Latin America consists of 20 States, big and small, yet the bulk of India's imports from Latin America

comes from only six of them. In 1967-68, imports into India from Mexico, Brazil, Argentina, Peru, Bolivia and Venezuela, put together, accounted for Rs 138 million out of a total of Rs 139 million worth of imports from Latin America as a whole. Country-wise, India's exports are, however, more broad-based, for practically every Latin American country imports from India one item or the other.

An offshoot of the concentration of India's imports from only half a dozen states is the utter lack of imports from a number of Latin American countries. During the four-year period, 1963-64 to 1966-67, India's imports from Costa Rica, Dominican Republic, Nicaragua, Guyana and Trinidad and Tobago came to a negligible sum of Rs 4.9 million, which was earned by Guyana in 1966-67 because of an *ad hoc* contract entered into with India for the supply of rice. If this single transaction is excluded, India's imports from these five countries during the period 1963-64 to 1966-67 were almost nil. India's exports to them during this period, however, totalled Rs 62.7 million.

TURNOVER OF TRADE

It may also be noted that although both the regions constitute a large part of the total land area of the world as also a very big part of the total world population, yet the turnover of trade between the two has never come to much. In 1966-67, India's exports to and imports from Argentina, Brazil, Chile, Colombia, Guyana, Peru, Trinidad and Tobago, Uruguay and Venezuela amounted to Rs 83.34 million and Rs 105.31 million respectively. The unbelievably low level of trade is evident from the fact that in the same year India's exports to and imports from Czechoslovakia amounted to Rs 266.0 million and Rs 305.03 million respectively. The very small turnover of Indo-Latin American trade should obviously be a matter of concern, for both the regions have currently a very high level of imports as also a colossal import potential in the context of

Mr Hartirath Singh is Editor in the Indian Institute of Foreign Trade, New Delhi.

their economic development plans. If they take advantage of this, it would be a much-needed shot in the arm for their economies, desperately in need of foreign exchange.

TRADE TRENDS

The currently low level of trade may perhaps be traced to historical and geographical reasons, which have kept the two regions apart, resulting in a non-complementarity of their economies. Take, for instance, the case of Brazil. The largest country in Latin America, with a population as high as 85 million, Brazil, instead of being India's most important trading partner in Latin America, is India's serious rival in some of her traditional exports such as tea, cashew-nuts, jute manufactures, cotton textiles, coffee and iron ore. Unless the two countries come together in export marketing, there is serious danger of a steep decline in the export prices of their products, resulting in losses to both. Take also the instance of Colombia. The composition of Colombia's exports does not leave much room for a significant increase in Indian imports, because the commodities being exported by Colombia, namely, coffee, crude petroleum, bananas, cotton, tobacco, textile yarn and fabrics, are hardly the ones that India would like to import, or import in big quantities. Guyana is yet another case in point. Guyana's imports consist of dairy products, wheat meal and flour, petroleum products, chemicals, textile yarn and fabrics, iron and steel, machinery and transport equipment, clothing, except fur clothing and footwear. A comparison of these import items with the commodities being imported by Guyana from India shows that of these nine major items, it is only in footwear that Guyana finds it profitable to import from India. Even in respect of footwear, Guyana's imports from India constitute about 1/105th of its total imports from the world.

A comparison of India's exports to Latin American states with the items being exported to them by the rest of the world shows that Indian products are hardly the ones that the Latin American countries import in sizable quantities. This

is equally applicable to India's current imports from Latin America *vis-a-vis* India's major imports from the world. With the vast variety of Indian products and the diversification that has taken place in India's industrial products during the last two decades, India should be in a position to offer to the Latin American states, at competitive prices, what they need most. It is only then that we will be able to make a dent in the Latin American market and the Latin American states, in turn, will devise an export strategy for better salesmanship in India.

TRADE AGREEMENTS

In view of what has been said above, it is not surprising that the trade agreements between India and the Latin American countries are few and far between. India has a trade agreement with Argentina, which provides for reciprocal extension of the most-favoured-nation treatment in the matter of trade, tariffs, shipping, etc. The agreement also envisages periodic exchange of lists of items available for export. In February this year, India signed a trade agreement with Brazil. Its origin may be traced to the visit of a trade delegation from Brazil in October 1963. After discussions in India, it was decided to negotiate a general trade agreement between the two countries. So tardy was the progress towards finalising the agreement that it took about four years before it was actually signed. Under the agreement, India and Brazil have agreed to accord the most-favoured-nation treatment on a reciprocal basis. The agreement contains a provision for the establishment of joint industrial ventures.

Chile signed a trade agreement with India as early as 1956. Like the trade agreements with Argentina and Brazil, the Indo-Chilean trade agreement provided for the most-favoured-nation treatment to each country in respect of trade and tariffs. The agreement expired on December 31, 1966; so efforts are now afoot to extend it further. The gains from this agreement are hardly in evidence in Indo-Chilean trade. The record turnover of trade, amounting to Rs. 23.10 million in 1961-62, has not been achieved thereafter. Since 1961-62 India's exports to Chile have

been stagnant at Rs. 10.13 million per annum, falling to Rs. 4.30 million in 1967-68 because of abnormal circumstances. India's imports from Chile have also been stagnant at about Rs 4 million per annum, falling to Rs 1.10 million in 1967-68, again because of abnormal circumstances.

The very small number of trade agreements with Latin American countries, the dubious success attending at least one of them, the delay in signing another and the obvious lack of effort by the two sides to enter into similar agreements unfold an unhappy trend, which in the mutual interest of the two sides must be reversed immediately and forever.

ECONOMIC COLLABORATION

For some years past, India has been venturing out in foreign lands in the sphere of economic collaboration. As many as 49 firms have been set up by India in collaboration with local industrialists in almost all the important regions of the world. That only one unit is located in Latin America is yet another proof of the slender base of Indo-Latin American economic co-operation. This firm, an Indo-Colombian venture in Colombia, will manufacture twist drills.

Efforts are being made by the State Trading Corporation to get orders to assist the Uruguay Railways in their modernisation and development programmes. The project involves India's participation in track renovation, regirdering of bridges and supply of wagons and rolling-stock. Some Indian firms are bidding for tenders invited by some of the Latin American countries. A bid by an Indian firm for tender issued by Argentina Railways for supply of rails is currently under consideration.

This brief resume of economic collaboration between India and Latin America shows that in respect of economic collaboration India has only made a beginning. According to the Indian Trade Delegation visiting Latin America in mid-1964, Brazil is interested in obtaining technical co-operation from India for the jute industry and sugar refining. Argentina would like to have Indian

collaboration in the textile industry, Peru and Venezuela in jute and fertiliser plants and Colombia in light engineering industries. India must act in time, otherwise the opportunity of setting up joint ventures in Latin America is likely to be seized by its competitors.

BALANCE OF TRADE

India's trade balance with Latin America has traditionally been favourable. In 1963-64, 1964-65 and 1965-66, India's trade balance with Argentina, Brazil, Chile, Colombia, Guyana, Peru, Trinidad and Tobago, Uruguay and Venezuela was favourable to the tune of Rs 132.35 million, Rs 77.91 million and Rs 59.57 million respectively. In 1966-67, however, the balance of trade was in favour of these countries to the extent of Rs 20.97 million. This turn in the tide in favour of Latin America may be ascribed to an *ad hoc* purchase of rice from Brazil in 1966-67, bringing India's imports from Brazil in that year to Rs. 82.58 million as compared to record imports from Brazil at Rs. 2.6 million in 1967-68. The fact of the trade balance having been in favour of Latin America during 1966-67 does not, however, reflect a fundamental change in the trend of Indo-Latin American trade.

In 1967-68, the trade balance was again in favour of Latin America in respect of six countries (Argentina, Brazil, Chile, Peru, Uruguay and Venezuela) for which figures are available. This may be traced to a considerable increase in India's imports from Argentina, Peru and Venezuela. Taking Latin America as a whole, in 1967-68, India's exports and imports amounted to Rs 55 million and Rs 139 million respectively, with a negative trade balance of Rs 84 million for India. It is too early to say that the factors behind the recent increase in India's imports from Latin America are of a permanent nature and that there is a long-term shift in the balance of trade in favour of Latin American states. Nonetheless, the fact of the balance of trade having been in favour of Latin America for the last two years is in itself a significant development and should serve as an incentive to Latin American countries to increase their imports from India. It is obvious that

India must import more from Latin America to enable Latin America to import more from India. It must also be stressed that the only factor that can contribute to an upsurge in Indo-Latin American trade is the emergence of meaningful and determined policies on the part of the Latin American countries as well as India.

COMPOSITION OF TRADE

Among the Latin American countries, which the Prime Minister, Mrs. Indira Gandhi, is going to visit, Argentina is easily India's most significant trading partner, accounting for nearly half of India's total exports to this region. Almost the entire bulk of India's exports to Argentina consisting of jute manufactures is made up of mainly hessian and sacking cloth. Jute manufactures also constitute India's main export item to Chile and Uruguay. Seventy-five per cent of India's exports to Peru and Trinidad and Tobago consists of jute manufactures. Jute bags constitute the most important item of India's exports to Guyana, though in 1965-66 exports of jute bags to Guyana were negligible. Jute fabrics constitute one of India's two most important exports to Venezuela, the other being "gums, resins and lac".

In respect of Brazil and Colombia, India's most important item of export is lac. The other products exported by India to Latin American countries are: gum, resin and lac to Argentina and Venezuela; tea to Chile; spices and cotton manufactures to Guyana; coir products, lac and paraffin wax to Peru; cotton fabrics, footwear, cine films (exposed), and cumin seeds to Trinidad and Tobago; and mats and lac to Uruguay.

INDIAN IMPORTS

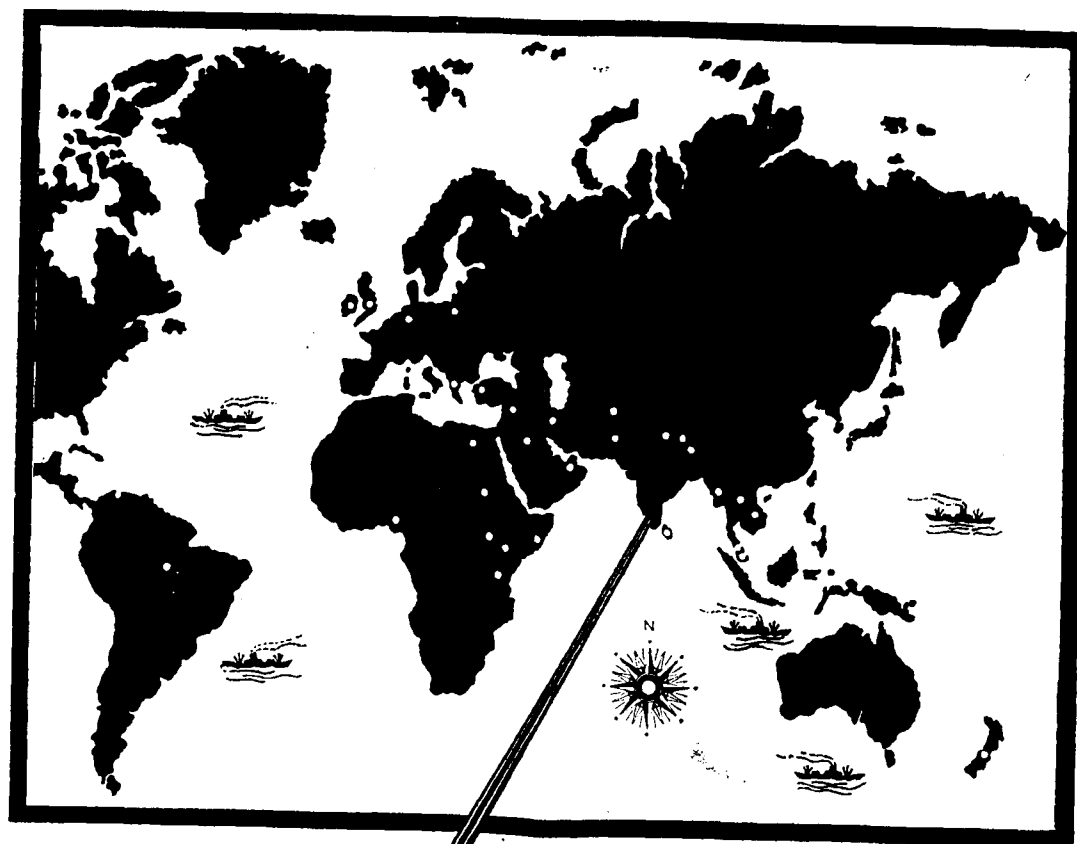
India's imports from Latin America, like its exports to that region, are only a few in number. India imports from Argentina mainly tanning extracts and office equipment, from Brazil carnauba wax and menthol, from Chile natural sodium nitrate, from Peru raw cotton, from Uruguay raw wool, and from Colombia natural emeralds. India also imports rice, as and when available at competitive prices.

An Engineering Manufacturers' Delegation that visited Argentina, Peru, Trinidad and Tobago and Uruguay found definite opportunities for Indian exports of railway rolling stock, track materials and stores; sugar, tea and textiles machinery; industrial sewing machines; transmission line towers and fabricated structures; structural steel works and a host of other engineering products. All the Latin American countries are endeavouring to industrialise themselves as quickly as possible through planned development and promotion of intra-regional trade through the Latin American Free Trade Association (LAFTA). India, on the other hand, has made impressive gains during its first three Five Year Plans and is now poised for further advance during its Fourth Five Year Plan commencing on April 1 next year. Both the regions can obviously accelerate the process of their development by coming together in the field of trade and economic collaboration. The visit of India's Prime Minister to Latin America will lay the ground-work for such a get-together. The superstructure will, however, have to be built by mass contacts at the level of trade and industry, market research specialists, planners and pioneers, acting more in the spirit of path-finders than in the get-rich-quick hopes of business magnates.

HUNDRED YEARS GROWTH

The year 1971 will mark the biggest increase between two censuses recorded in 100 years. In that year the population will reach 563 million which will be 124 million over the population in 1961.

Looking back a hundred years, we find that between 1872 and 1881 the population increased by only 46.7 million. However, in 1891 the population went down by 13.4 million but was up by 1.6 million in 1901. The population in the next 10 years increased by 13.7 million but in 1921 it again went down by 0.8 million. However, since then the population curve has kept on rising and from 27.6 million addition in 1931, 39.7 million in 1941 and 42.3 million in 1951, the 1961 census registered 78.1 million addition over the previous census.



ITI exports equipment worth Rs.1.55 crores to 30 countries

Countries to which ITI has exported its equipment

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- Belgium ● Pakistan
- Bhutan ● Poland
- Brazil ● Sikkim
- Burma ● Singapore
- Ceylon ● Somali Republic
- Greece ● Sudan
- Iran ● Syria
- Iraq ● South Vietnam
- Ireland ● Tanzania
- Kuwait ● Thailand
- Kenya ● Turkey
- Malaysia ● Uganda
- Nepal ● United Kingdom
- Nigeria ● United Arab Republic

Today, ITI is one of India's major engineering exporters earning valuable foreign exchange. It has exported equipment worth Rs. 1.55 crores to 30 countries since 1963-64. In 1967-68 alone ITI earned Rs. 50 lakhs in foreign exchange in a highly competitive international market. Currently, orders worth about Rs. 80 lakhs are under execution. ITI exports to several Asian, African and European countries, besides the U.K. and Brazil which are the largest importers of ITI equipment. ITI has now been commissioned to install a 5000 line exchange in Dar-es-Salaam and a 600 line exchange in a suburb of Kurasini in East Africa. ITI's exports include telephone instruments, automatic exchanges, long distance transmission equipment, loading coils, bank multiples, switches, condensers and piece parts.

ITI works and earns for the nation's future.



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ASP:ITI 107

BIG DEEDS HUMBLE MEN

*In this feature
Yojana seeks to present
the outstanding achieve-
ments of some of the
many millions of obscure
farmers who are fight-
ing the nation's battle
for food.*

SECOND CROP FROM STUMPS OF THE FIRST

It might seem odd but a farmer has done it. Sadashivrao Aparajit of Lakhala Khurd in Jabalpur has almost achieved a miracle by getting a second crop of jowar from the stumps of the first. He sowed during the kharif season last year two kgs. of hybrid jowar seeds and obtained a crop of two quintals in the first week of October.

The stumps of these plants were left standing in the field. He irrigated them on the advice of the local agricultural officers. Within about five months he reaped another harvest of two quintals.

This experiment was watched with considerable interest by other farmers and its success has inspired them to repeat it in their fields.

During the rabi season, Aparajit sowed Larma Rajo wheat in another acre of his land after harvesting the kharif crop of groundnut. He removed the pods from the groundnut plants and left them to decay in the field, thus providing green manure as basal dressing for the proposed crop of wheat. He also spread 150 kgs. of ammonium sulphate and 40 kgs. of potash.

On November 5, he sowed 40 kgs. of wheat seed. After twenty days he applied another dose of 75 kgs. of ammonium sulphate and irrigated the field. He kept on irrigating the field at an interval of 20 days.

In an adjoining field was a crop of C 591 wheat, much of which was damaged by rust while Larma Rajo remained immune to the disease. Aparajit harvested the crop in March this year which weighed 33 maunds, about thrice the average yield in this area.

A TALUK SUPPLIES SEEDS TO ENTIRE DISTRICT

By dint of the farmers' perseverance in taking to the new agricultural strategy a taluk in Maharashtra now supplies seeds to the entire district of which it is a part.

Khatav Taluka in Satara district has been a scarcity area since ages. Average rainfall here is 15" to 18". Agricultural Officers tried to introduce the high-yielding varieties of jowar and bajra in this area. The farmers in the first instance resisted. Ultimately after a lot of persuasion some cultivators in Wading, Katar Khatav, Padal, Kalambi and Buth agreed to try the new varieties. The result was thrilling to them. On an average each of them got a yield of 8 quintals of seeds per acre for sowing and 8 to 9 quintals of grains for consumption. This experiment earned Shankar rao Patil of Mana village Rs. 85,000. The earnings of some other farmers ranged from Rs. 40,000 to Rs. 45,000.

This has shown that the climatic conditions in Khatav taluka are very favourable for the cultivation of the new varieties of jowar and bajra seeds.

A SMALL FARMER TRANS- FORMS WHOLE VILLAGE

Goalbatham in 24 Parganas of West Bengal presents an example of how the economy of a village can be transformed by the efforts of even a small farmer owning just four acres of land. The credit goes to Gopi Krishna Majumdar. He welcomed the advent of high-yielding variety seeds in his Gaighata area. Determined to make agriculture a commercial preposition, he adopted Taichung Native-I, I.R.-8 and Dulari and progressively increased the yields to 70 maunds per acre. He did not wait for the Government to provide him irrigation facility. He sank a shallow tube-well himself and fitted it with a diesel engine.

At present, Majumdar is taking two crops a year, and is not satisfied with cultivating only paddy. During the last season, he cultivated Mexican wheat in an acre and reaped a harvest of 45 maunds.

Majumdar is also trying his hand at fruit cultivation. The papaya and banana yield of his farm got him a merit certificate in the Agricultural Exhibition held last year at the Gaighata Block Office.

Majumdar's enthusiasm for agricultural development has become contagious. Several farmers of the area are following his example.

The soil in Jalpaiguri district in North Bengal is much inferior as compared to the soil in other parts of West Bengal. But Anil K. Paul of Fatapukur has proved that with the adoption of high-yielding strains and proper dosages of fertilisers and manures, production can be increased by two and a half times.

Paul cultivated Taichung Native-I in 1967 and obtained a yield of 92.9 maunds per acre while the average yield from the local variety was between 30 to 40 maunds.

TWO ASSAMESE FARMERS AND THREE CROPS

Lila Bora of Digaru village was the first cultivator of his Block to take to triple cropping. The village is in Dimoria Development Block in Kamrup district of Assam.

Bora's first crop last year was Taichung Native as ahu, the second was I.R.-8 and Monohar Sali and the third, again Taichung Native-I in a plot of 3 bighas. His production was, first crop (ahu) 55 maunds, second crop (sali) 51 maunds and the third crop (boro) 54 maunds. Thus in a year, he collected 160 maunds of paddy in a plot of 3 bighas.

He was selected as the best agriculturist in his Block.

Bora is also well-known in his Block as a horticulturist. He has an orange orchard of about 140 bighas.

He said he was grateful to the Block Officers for teaching him the improved methods of cultivation.

Lila Bora is trying to set up a progressive farmers' association to discuss various problems involved in the development of agriculture.



And with good reason too. Look at it this way. Buying earthmoving equipment is a huge investment. To get the best return from this investment you've got to keep the equipment operating throughout its life. The built-in quality of Caterpillar equipment ensures that it is working all the time. Furthermore, ready availability of genuine replacement parts increases availability of machines by reducing downtime to a minimum.

This is where Caterpillar dealers are best equipped to serve you. With their network of well stocked parts depots throughout the country, quick replacement everytime is a matter of course. Besides, only Caterpillar dealers can offer you complete under-carriage components manufactured in India for track-type equipment and made to rigid Caterpillar specifications, quality control and inspection standards.

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Now you know why Caterpillar dealers always say "Don't consider Initial Price. It's the Total Cost that counts."

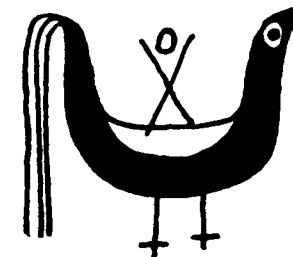
Somebody once asked us 'what's so good about Caterpillar Equipment'? We said 'PARTS—among other things'.

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STRIDES IN HEALTH



The First Plan provided Rs 140 lakh for health schemes, which rose to Rs 341.50 lakh in the Third Plan.

The Annual Plan for 1967-68 provided Rs 90 crore for Health and Family Planning (Rs 40 crore for family planning and Rs. 50 crore for other health programmes).

The number of hospitals and dispensaries during the First Plan was 10,000 and it rose to 14,600 in the Third Plan. There were 1,25,000 hospital beds at the end of the First Plan and their number swelled to 2,40,100 in 1966-67. During the First Plan there were only 42 Medical Colleges in the country and their number more than doubled to 91 in 1966-67.

Under the National Malaria Eradication Programme (N.M.E.P.) there are now 393.25 units, each covering on an average about 1.25 million people. The entire population of the country except about 15 million people residing in

areas at high altitudes has been covered.

The percentage of malaria cases as reported in hospitals and dispensaries has declined from 10.8 in 1953-54 to 0.05 in 1966-67.

In 1967 alone there were 42 participants from abroad in the N.M.E.P. studying the programme.

The National Smallpox Eradication Programme was launched in 1962. Out of the population of more than 511 million, 80.80 million received primary vaccinations and 471.83 million got re-vaccinations up to November last year.

The incidence of smallpox has considerably declined. In 1958, more than 1,68,200 cases of smallpox were reported and 45,848 persons died, whereas in 1967 only 46,780 cases were reported and the number of reported smallpox deaths fell to 11,814.

The maximum indigenous production capacity of freeze-dried smallpox vaccine is 60 million doses.

Highest priority has been given to the establishment of the TB clinics/centres under the National Tuberculosis Control Programme which envisages one fully equipped and staffed TB clinic in each district of the country. Of the 335 districts there are only 51 districts which do not have such clinics.

In 1947 there were only 70 TB clinics in the country and their number swelled to 502 in 1967. All of them are engaged in domiciliary treatment of TB patients.

A total of about 243 million people have so far been tuberculin tested and

105.2 million persons have been BCG vaccinated since the inception of the campaign in 1949. Anti-TB drugs were being distributed free of cost to 46 TB institutions during the year 1967-68 as compared to 44 institutions in 1966-67. It has been decided that from 1967-68 the scheme for providing anti-TB drugs for domiciliary treatment to State TB clinics be converted into a fully Centrally-sponsored scheme.

By March 1968, there were 182 Leprosy Control Units in the country.

At present 14 States and two Union Territories have set up Nutrition Divisions. A Nutrition Cell in collaboration with the Indian Council of Agricultural Research has devised simple rules of infant feeding and weaning.

To assist State Governments to tackle the menace of food adulteration, a scheme has been included in the Fourth Plan which envisages establishment of units at the Centre and in different Zones and of attached laboratories to analyse food articles.

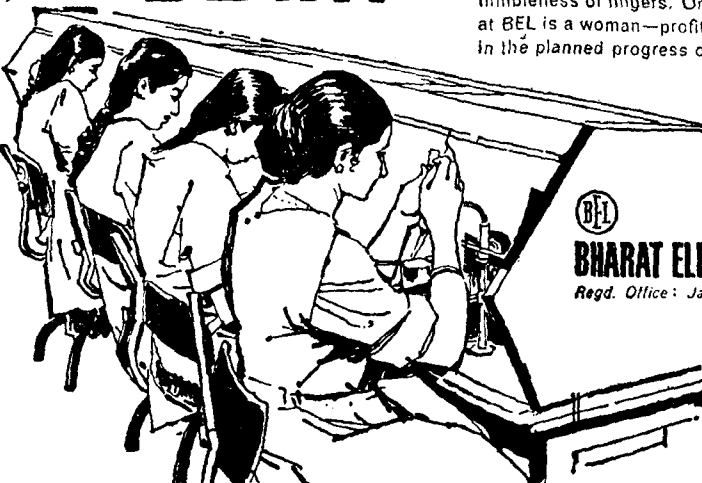
The Central Public Health Engineering Organisation approved 53 urban water supply and sewerage schemes in 1967 costing Rs. 1,721.73 lakh. During the same period, the Organisation approved 149 rural water supply schemes costing Rs 626.91 lakh. A centre for training and research in Municipal Administration was set up in Delhi in 1966 and three regional centres are proposed to be set up in Bombay, Calcutta and Lucknow.

V. M. SOORMA

A FAIR BET...

— in the Planned Progress of the Nation

It is a fair bet that members of the fair sex fare better in certain types of jobs—plying a needle, embroidering a motif or, as they do in BEL, assembling electronic components—under the microscope. There is scope in BEL for the girls to bring into play their natural gifts—keen concentration, infinite patience and nimbleness of fingers. One in every five at BEL is a woman—profitably employed in the planned progress of the Nation.

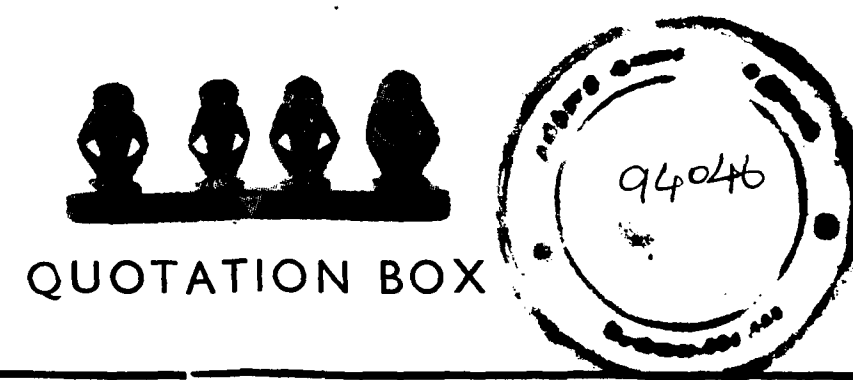


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to build for the future!**

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State Bank for Service

I spent several hours in the early morning talking to the hippies who collect in Washington's Dupont Circle... One particular Guru who was pontificating to a large group of disciples wore a beard, a Nehru jacket, long hair and beads, and interested me when he started quoting Mao (inaccurately as it happens). I asked him what he thought Mao's aims were in launching the Cultural Revolution, and he had the answer pat: "To limit the population".

—From Traveller's Tales in
"Far Eastern Economic Review",
Hongkong

...India's troubles lie not only in numbers... It is hard to say which gives rise to the most complex problems—the birth of 55,000 babies daily, or the fact that these young citizens of the republic are divided from birth by barriers of prejudice and social inequality.

—Lev Stepanov in "New
Times", Moscow

...the genetic packages that we received from our parents in the form of 23 chromosomes from each were exceedingly small. Indeed they were so small that the total genetic material from which the present world population of more than 3 billion individuals was derived can be packed in one aspirin tablet.

—Dr L.D. Sanghvi of the
Indian Cancer Research Centre

...the ultimate answer to the population and economic questions is more surely to be found in the righting of the maldistribution of wealth, the co-ordination of productivity, and the universal establishing of adequate remuneration, family allowances, housing, health services and the like.

—William Gordon Wheeler,
Catholic Bishop of Leeds, England

...Averall Harriman, one of the most travelled of American diplomats, was received by a senior American Embassy official at the Rome airport and on the way to the hotel given a boring and entirely uncalled for lecture on how he should disport himself with Italian political leaders. When they reached the hotel, the official is supposed to have asked: "and is there anything else that I can do for you, Sir?" To which Harriman's reply is reported to have been: "Yes, button up your fly."

—Nireekshak in "Economic
and Political Weekly"

I do not really believe that France suspended her first explosion of a hydrogen bomb off Tahiti because there is no Statesman, Times of India or Hindustan Times to report the big bang.

—From 'A Ditcher's Diary'
in "Capital"

Full Wombs Versus Full Rice
Bowls.

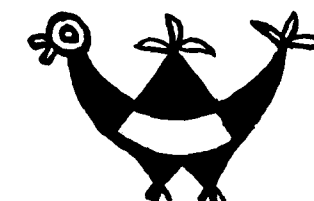
—A cross heading in
"Eastern World"

There are no avowed anti-Maoists in China today, and all the contending groups fight in the name of Mao and his canonical thought.

—From an article in "The
American Review"

It is a trifling matter that some Ministers are believed to have cancelled some of their engagements because there is no Press to report their profound pronouncements.

—From "Capital", Calcutta



In particular the (Pope's) argument that 'artificial' birth control opens up a 'wide and easy road towards conjugal infidelity'—as if Catholics who are perfectly prepared to commit adultery might pause at the thought of offending their Church by taking the pill—shows an almost embarrassing lack of worldly understanding.

—Editorial in "Spectator",
London

In addition to the usual argument based on the health of the mother, education of children etc. there is this too (in China's birth control campaign). Marriage should be considered only "after the various parts of the body have developed and matured." "one cannot know the person one wants to marry in a short time, particularly one cannot know his or her political thought" "which is the true basis of love"... The answer to all these problems—"Do not fall in love at an early age."

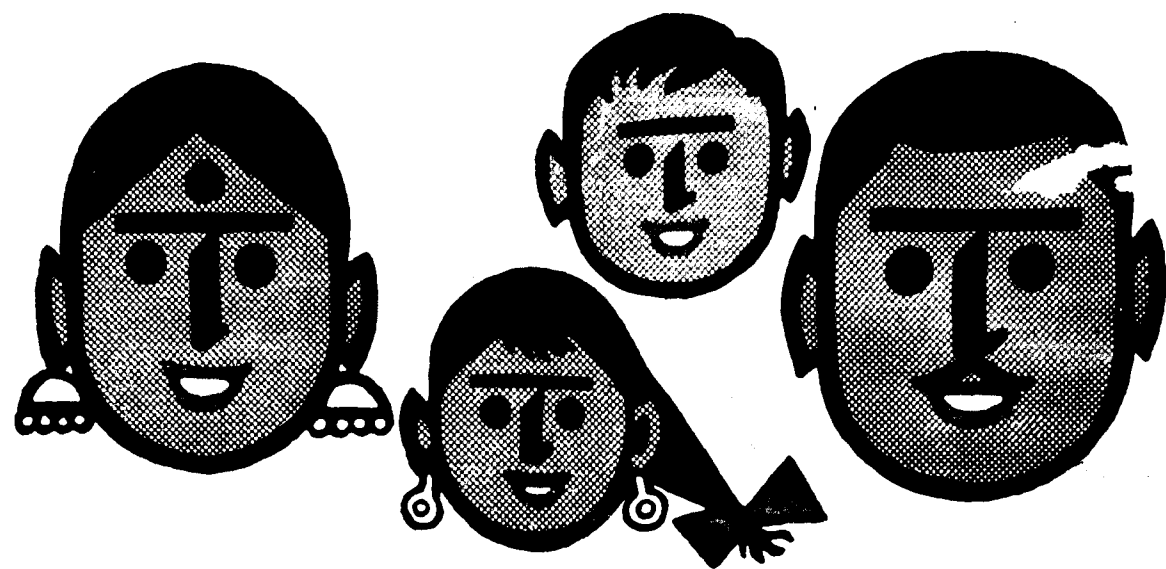
—Amrit Lal in "Eastern
World"

Today I realise what we were missing, what we forgot, we had not thought about sex... It is a far far happier time that we have now entered the era of sex and socialism. Eros is on the left and beautiful is our youthful rebellion.

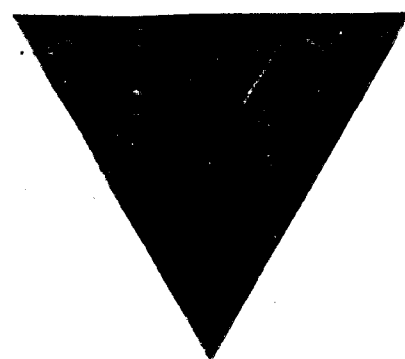
—Dr Horst Kruegel on
West Germany today

In Oxford, Cambridge and London and in the new University of Sussex, there is available a regular medical advisory contraceptive service for unmarried girl and boy students.

—Jai Prakash Gupta in
"Social Welfare"

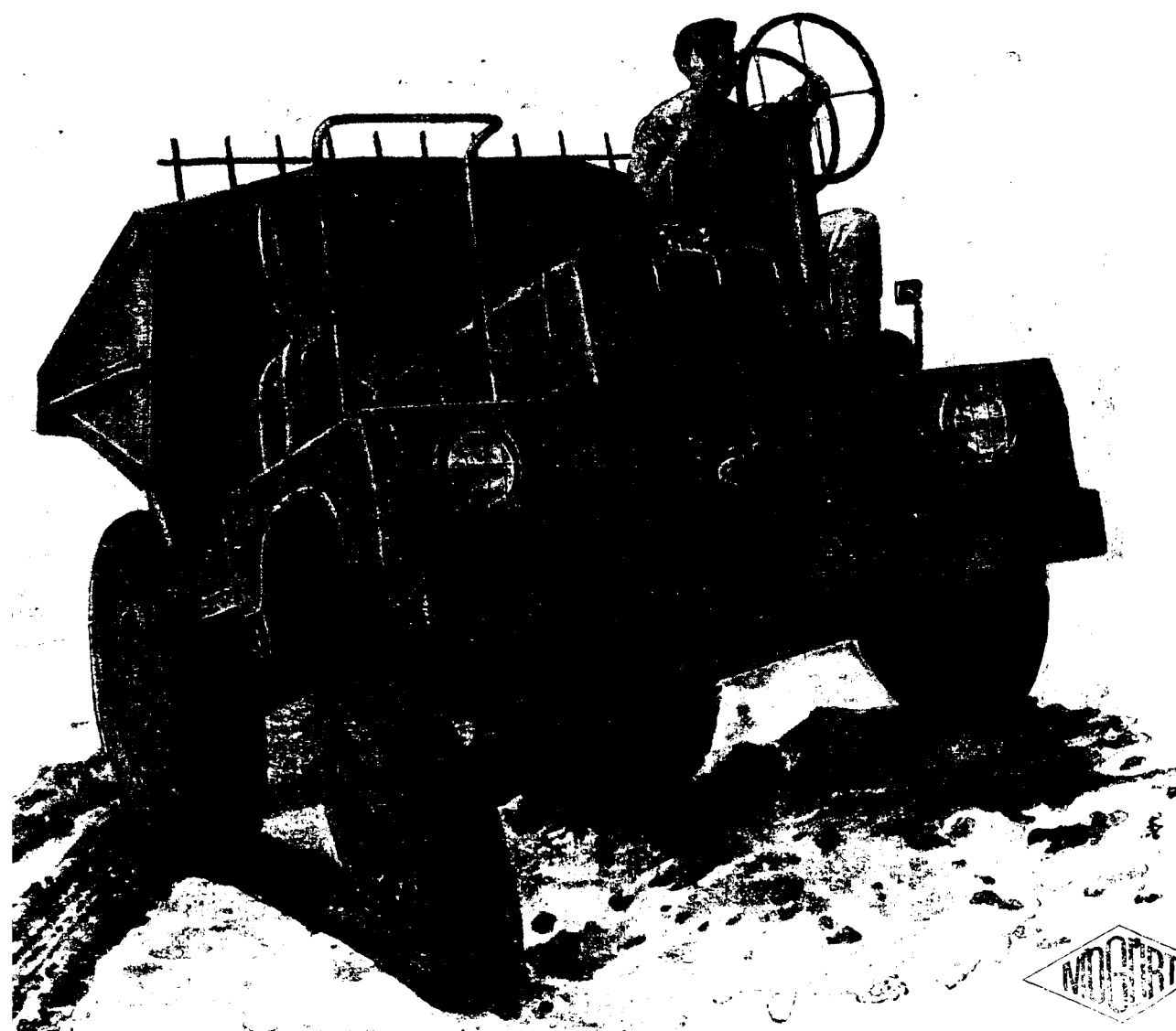


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YOJANA

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LEST WE FORGET

I shall work for an India in which the poorest shall feel that it is their country, in whose making they have an effective voice, an India in which there shall be no high class and low class of people, an India in which all communities shall live in perfect harmony. —Gandhi

IN THIS ISSUE

CORRECTIVE TO IMBALANCE <i>Editorial</i>	2
A NEW EXPERIMENT NEAR THUMBA <i>Near the Thumba Rocket Station in Trivandrum, another experiment is in full swing : in joint farming.</i>	3
WAGES AND PRICES: A Discussion <i>Four top-ranking men, each an expert in his field, discuss the burning question of a need-based wage in the context of rising prices.</i>	6
THE NEW SCIENCE COMMITTEE'S TASKS <i>A. Rahman, the Scientist in charge of the Research, Survey and planning Division of C.S.I.R., gives his personal views on what the new committee should do to enable a large scale and healthy growth of science in India.</i>	9
THIS INDIA	12
FUTURE JOBS FOR ENGINEERS <i>Kamlesh Ray, the Scientist in charge of the Scientific and Technical Manpower Division, of C.S.I.R., makes a number of suggestions to ward off unemployment among engineers in the country.</i>	13
FARM EXPORTS SHOULD GO UP FURTHER <i>Sada Nand</i>	15
SIDE TRACK	18
BOOK REVIEWS	19
ECONOMY OF CZECHOSLOVAKIA <i>World Spotlight</i>	21
AN ASSAM HILL DISTRICT GETS ITS FIRST THERMAL PLANT	23
MANAGEMENT CADRE FOR CO-OPERATIVES <i>K.K. Taimni</i>	25
ISLAM IS FOR FAMILY PLANNING <i>M. Islam</i>	27
STEPS TO IMPLEMENT ADMINISTRATIVE REFORMS <i>Dr. S.C. Seth</i>	29
PLANNING FORUMS	31

CORRECTIVES TO IMBALANCE

THE Committee of the National Development Council has laid down certain principles for determining the pattern of Central Assistance to the States for economic development. The need for action arose because of the growing realisation that it was necessary to remove obvious regional and economic imbalances for the country's economic progress to be meaningful to all sections of the people.

Regional disparities are the product of natural and historical factors. In a country of the size and the range of climatic variations like ours, it is inevitable that the availability of water, the fertility of the soil, the existence of mineral deposits and the density of population vary from area to area. As a result, some areas are naturally richer than others.

These disparities can no doubt be modified by human effort. However, under foreign rule there was no conscious effort in this direction. Such development as took place before Independence was mainly oriented towards making available from India the raw materials, agricultural or mineral, needed by British industry. The ports through which the exports took place, and through which incidentally British goods were imported into India, naturally became the focal points of such development.

Industries tend to grow in areas which have certain basic facilities, such as power, transport, the availability of skilled labour, housing and other amenities. The understandable emphasis on industrialisation to diversify our economy and to reduce excessive reliance on agriculture inevitably meant that most development even after Independence took place in areas which, relatively speaking, were already industrialised and developed, particularly around the port towns.

The general impression that credit is the main factor in economic development is not quite correct. In reality it is only secondary as far as the development process is concerned. It provides finance for projects and programmes only after they have been initiated. Consequently, the less developed areas in the country or even within States have not been able to make much progress. There is, however, no denying that this imbalance has to be corrected in order to make available the fruits of development to every part of the country. Obviously this can only be brought about if some special measures are taken in the Fourth Plan to accelerate the development of the areas which are backward. This is precisely what the National Development Council proposes to do.

In the first instance, it will be necessary to identify the areas to which special attention has to be given. We often identify backward States as those that lack industries. Between 1952 and 1967, of the total number of industrial licences issued, Maharashtra, West Bengal, Madras and Gujarat accounted for almost 60 per cent, while the remaining 40 per cent were dispersed in all the other States. The share of some of the comparatively less developed States showed a slightly upward trend during the latter part of this period. For example, Rajasthan got about 2.1 per cent of the total number of licences issued during 1958-67 as compared to 1.5 per cent in 1952-57. Similarly, Bihar got about 5.3 per cent in 1958-67 as compared to 4.2 per cent in 1952-57.

As balanced regional development is one of the important objectives of planned development, it is essential that industries are attracted to the backward regions. Two important programmes have been initiated during the Third Plan period in this connection. One is the establishment of industrial areas wherein all the infrastructural facilities required for industrial development are provided. Another measure is the promotional activities of the Industrial Development Corporations which have recently been set in most of the States.

Since Independence, a great deal of progress in removing regional disparities has been made, perhaps more than is generally realised.

The latest decision of the National Development Council should help to ensure a more even development of the country, so that no region feels left out in the nation's onward march to prosperity.



A NEW EXPERIMENT NEAR THUMBA

FOUR HUNDRED FARMERS JOIN TO CULTIVATE

F.A.C.T. AGAIN
TAKES A FIRST

AT Andoorkonam, a little village about 12 miles to the north of Trivandrum, not far from Thumba, where the equatorial rocket launching station is located, a new experiment in joint farming is in full swing. Four hundred small farmers of this village have given their paddy lands ranging from four cents to two acres to the Fertilisers and Chemicals Travancore, Limited for organising a demonstration farm. The total area of the joint farm comes to 100 acres.

In Kerala, the majority of the cultivators have very small plots which prevent them from adopting advanced, scientific methods of cultivation. And this, naturally, has a retarding effect on the growth of food in the State, which needs it very badly.

This fact was projected at the Annual Farmers' Camp at Andoorkonam held in March 1968. At this one day seminar, problems

of soil, animal husbandry and plant protection were discussed. It became clear that the local cultivators, though receptive to new ideas, could not go in for sufficient inputs like good seeds, fertilisers and mechanised ploughing. The limited size of their holdings stood in the way of implementing advanced techniques.

The Chief Agronomist of FACT and his colleagues who had attended the Seminar realised that the solution lay in organising these small farms into a demonstration farm so that, jointly, they could obtain the benefits of large-scale cultivation. The local farmers were sounded by FACT field staff and

all of them were for trying the new idea. The burden of drawing up plans naturally fell upon fact.

A meeting of the small farmers in the area was held on April 4, 1968. FACT was ready with the blue-prints and schedules for organising the joint farm. They explained to those assembled the programme, the idea behind it, the ultimate objective, the risks and prospects, the economics and the important role they were playing through this step towards the solution of a national problem. The proposals were discussed in detail. The farmers wanted FACT to give them the necessary technical guidance and help in organising the model farm. Finally, the entire collection of farms in the vicinity extending to hundred acres was offered as a new Demonstration Farm.

The farmers are drawn from all communities and have loyalty to all the different political parties.

For operational convenience the entire area was divided into eleven blocks with the bunds of various plots being adopted as the boundary of each block. These eleven blocks were later arranged into seven groups by coalescing the smaller blocks.

KARSHAKA SANGHAM

An informal committee called Karshaka Sangham has been set up to supervise the work and work out details of cost-sharing. Two members have been elected from among the land holders in each group thus forming a fourteen-member executive committee, with a President, a Secretary, and a Treasurer. The committee assumed full charge of the operations under the guidance of FACT field staff.

The first step taken by FACT was to collect soil samples from each plot in the 100 acre farm and get them analysed at their Soil Testing Laboratory. They then prepared detailed charts showing the pH levels of each plot, charts for nitrogen potassium and phosphorus levels, a chart showing the general deficiency level in each plot if any, and the final chart detailing the ratio and dosage of fertiliser application. These charts were displayed in the local Panchayat Office.



The first step that FACT took after organising the farmers was to prepare colour charts showing the soil deficiencies of the different plots. These charts proved greatly valuable to the farmers. A scientist explains the charts to the farmers. (top) Collecting soil samples (left). Farmers apply pesticides using mechanical sprayers. (bottom) Fertilisers, on the basis of the soil analysis, are distributed by FACT at subsidised rates.



for the farmers to consult, study and understand.

These charts naturally had a great impact on the farmers. For the first time they came to understand how their plots differed from their neighbours, why they were getting a different result from what the owner of the adjacent plot got.

The final application chart has been prepared on the basis of N.P.K. level at 80: 50: 50 taken as general mean. Fluctuations above and below this are indicated by means of symbols easily understood by the cultivators. The variations fall into ten groups, which have been given serial code numbers and set out in a printed proforma which has been distributed to the cultivators. On the basis of this, a list has been prepared from which it is easy for any cultivator with the help of his plot number in each block, to pin-point the recommendation for his plot. Such elaborate preparations caught the imagination of the cultivators and made them

enthusiastic about the entire venture.

The general body of the farmers unanimously decided to use tractors for ploughing, a step which would have been impossible for the small farmers if they had been on their own. The entire 100-acre area was ploughed in double quick time with the help of tractors, taken out on rent from the Panchayat and block offices. The farmers felt proud of using the tractors.

The committee in charge of the working programme go about it as if the entire hundred acre area belonged to them. The sense of identification has been a noticeable feature of the enterprise thanks to the guidance of FACT officials who preferred to remain in the background and allow local initiative full freedom of play.

When the general body met to decide upon the seed to be used, there was full and free discussion and finally it was unanimously agreed to use IR-8. The required seeds were got partly from FACT

and partly from the Agricultural Department.

Then the question of nursery came. It was decided to have a common nursery for all the plots. The cost of this was worked out and estimated at Rs. 4,500. The cultivators contributed money towards this on the basis of the extent of their plots. The seedlings were raised scientifically. The rains came late and the transplanting of the big area had to be done at a stretch. This leg of work was entrusted to individual owners who were given first class, fully-treated seedlings. The planting was done under the supervision of FACT officials who implemented the line-planting method.

The common nursery was a big success. The cost of seedlings for each farmer fell from the usual Rs. 126 or more per acre to as little as Rs. 42 thanks to the pooling of the overheads involved, and much more so because the farmers

turn to PAGE 17

WAGES AND PRICES

Their place in Economic Policy

Venkatasubbiah: Wages and prices have been constantly in the public mind as well as in the mind of the Government and the planners—specially in the past one year or two. Owing to various reasons, prices have been rising; consequently there has been a demand for increase in wages. Well, in India, I suppose, wages have to be understood in a broader sense to include certain low income groups also, although they receive salaries and not wages, strictly speaking. Also there is a large number of people who are self-employed, who do not get any wages or salaries as such but are affected by the rise in prices. So for any discussion on wages and prices to be realistic, one has to assume a large number of categories of the working population—self-employed wage-earners, salaried classes, and so on.

Another peculiarity about our conditions is that we have evolved a system of tripartite wage determination. In our wage bargaining, the Government is a partner along with employers and employees, whereas in most advanced industrial countries, the wages are left largely to be determined through bargaining between organised labour and the employers.

There are various questions that a wages and prices policy raises. One is of industrial relations. How do wages and prices determine industrial relations and social stability in general, and productivity in the narrow economic sense?

And secondly, the place of these two in the total economic policy. What place do wages and prices have, and whether there is any relationship between them at all? Do prices affect wages one way or the other? How far do wages enter into the cost of production and prices?

DISCUSSION

MR VENKATASUBBIAH, Representative of the 'Hindu', MR I.G. PATEL, Special Secretary, Ministry of Finance, MR INDRAJIT GUPTA, Member of Parliament, and MR CHENTSAL RAO, Secretary of Federation of Indian Chambers of Commerce and Industry.

Thirdly, there is the question of relative prices, that is, prices of one commodity against another; of one article as against the other. What sort of pattern should prevail there? And of wages, as in one industry and another, or in one line of production and another.

The whole question is complicated. Certainly with so many strikes around, and many of us know to our cost as well as to the cost of the ordinary consumer that all these problems should be examined so that there can be stability and planned progress.

Well, do you believe, Dr Patel, that these sort of relationships can be sorted out? If so, how do you see a way out of this?

Patel: When one talks of prices and wages, it is not essentially and basically a theoretical problem. If it were purely a theoretical question of setting out in general theory what is to be done, perhaps one can sort it out. It is also, as you have mentioned, a human problem, a problem of relationships between different groups and classes, if you like, in society, and of one man's well-being against another man's well-being, also of today's self-interest of the community as against tomorrow's self-interest of the community; the question, in other words, of one man against another.

Not that these relationships are not capable of resolution. But they are not necessarily capable of resolution only by reference to theoretical ideas or what in theory you or I or Mr Indrajit Gupta or Mr Chentsal Rao agrees to. That is the difficulty about that aspect of the wage-price policy which you referred to as industrial relations. But it arises equally when you come to that aspect of wages and prices policy which relates to the general economic policy of planning. Here again, questions come up like whose sacrifice, how much of it, against what sacrifice as made by somebody else?

Venkatasubbiah: Are you suggesting that the human aspect of this has to be reconciled and continuously reconciled?

Patel: Well, you want me to go on with this? As an economist, I would not agree that the economic aspect is different from the human aspect. The point I was trying to make is this: an ingredient in this particular question is the reconciliation of the interests of different groups in society, not necessarily, you may argue, the employers and the employees. It is much broader than that: people who are employed today as against the people who are unemployed today, the present generation as against the coming generation.

Economics is about human beings, about human happiness; but when it comes to a reconciliation of the interests of different groups, you move somewhat away from simple considerations.

Venkatasubbiah: I am sure Mr Gupta also broadly has the same view. What do you say, Mr Gupta?

Gupta: Yes. Of course, it is, essentially, a human question. But apart from that, I think it is a very vital social question too, in the sense that it has a bearing on equitable or more equitable distribution of the wealth which is being produced through various productive activities. Of course, I have a bit of prejudiced view in this matter, perhaps.

Venkatasubbiah: Well, we are all prejudiced in one way or another.

GRADUAL EROSION OF WAGES

Gupta: But I have a specific prejudice, being connected with the trade union movement. I cannot forget the fact that on this very tripartite foundation which you, Mr Venkatasubbiah, referred to a little while ago, there was a unanimous decision or a consensus arrived at in 1957, that is, eleven years ago. It tried for the first time in this country to define what should be a minimum, what was called a need-based wage, in terms of the absolute bare minimum necessities that the worker and his family require for survival and for being able to keep going on with his productive job. So a norm was agreed upon unanimously.

But even eleven years after that we find that almost every industry without exception and, of course, Government as an employer also, although they were a party to that agreement, have been pleading their incapacity actually to translate that into practical terms and to pay to the workers and employees. So I believe that gradual erosion of wages—that is what I would call it—is taking place as a result of galloping prices in spite of the dearness allowances. Because, as you know, the dearness allowances do not compensate fully for the full rise in the cost of living. So there is an erosion taking place, and that is what lies at the root of much of the industrial strife over this question.

Venkatasubbiah: May I say at this point that the erosion is taking place because of the price rise? The responsibility for holding the prices is of both Government policy, where so much depends on Government direction, and of industrial employers who can perhaps cut down the prices otherwise. But once you say need-based wage, it raises a host of questions about the capacity to pay, and so on. Will you say something about this, Mr Chentsal Rao?

Chentsal Rao: I am glad Mr Gupta started off by saying that he is prejudiced. All the emphasis today is on the industrial working class. I would not say that this is right or wrong. But the fact remains that greater and greater attention has been paid, and that it should be paid, to this class which has become a

privileged class. I do not think that there has been an erosion of wages so far as industrial workers are concerned. We should consider that their wage packet includes a cost of living allowance, which is related, as you know, to the cost of living index. This really takes care of any kind of erosion that takes place in their earnings on account of the increase in prices. According to me, this cost of living index and the cost of living allowance is not a little responsible for further increases in prices. As to what extent it is responsible, there may be differences of opinion. Yet nobody can escape the conclusion that there is a link between these two: possibly this allowance follows an increase in prices but it also helps the increase in prices in its turn.

Coming to the need-based minimum wage, I do agree that at the 15th session of the Indian Labour Conference this concept was discussed and, if I may say so, was accepted without any kind of a detailed discussion. Now this need-based minimum wage lays down certain very desirable quantities to be consumed by the industrial worker, and not only by the worker but also his family, the family being taken as three units, wife and two children. Further it says that the earnings of the wife and children or adolescents should not be taken in computing the wages of the worker. Now this is obviously putting the things rather high in terms of our existing economic situation, or the situation which may emerge in a few years' time.

As against this, the Fair Wages Committee lays down three criteria, which, in fact, constituted the terms of reference of the Wage Board. These criteria are: one, the needs of the developing economy, secondly, the requirements of social justice, and thirdly, I believe, concern about the need to maintain differentials so as to enable the development of skills. These three criteria, I am afraid, are not taken into account either by Government when it comes to conclusions on the recommendations of the Wage Boards, nor do the Wage Boards adhere to them very strictly. They go on the basis of the capacity of the industry to pay.

To help further discussion without giving my own view on the point, I would like to throw out this proposition: that the confusion arises because of the triple aspect to labour force. One is the factor of production. Secondly, of course, the worker is a human being. Thirdly, he is a consumer. Now you have to reconcile these.

Patel: How do you reconcile these three aspects? How about balancing the requirements of the present generation in relation to what is going to happen to the next generation? In fact this is the problem.

Venkatasubbiah: Dr Patel, I would like to put this question to you. The Government's intentions were very laudable in formulating the industrial policies and the labour policies which Mr Rao has just outlined. But they have run into difficulties because it has not been possible for the Government to evolve a prices policy. If prices were held, nobody would

Should Real Wages be Raised ?

complain very much about industrial relations or about wages policy. Do you agree?

Patel: I don't really know. Supposing, as you say, the prices are held and the prices are not rising, the argument will reappear in a different form. The workers' real wages may not be going down because prices have risen and because the cost of living allowance has not gone up with it. But do you mean they will not ask for a real increase in wages?

Venkatasubbiah: A normal increase with higher productivity and an increase in profits must be expected in any enterprise.

Patel: Quite right, but the argument will still be about how much productivity has increased. How much has labour contributed towards it?

Venkatasubbiah: That problem is there. I think Mr Gupta will have something to say. But this whole process has been distorted by the fact that in the course of planning, it has not been possible to have anything like a structure of prices, a stable structure or a steady rise, even assuming that a rise in prices is inevitable. What do you say, Mr Gupta?

Gupta: Yes, that is quite obvious. But whatever the relation that wages may have to profits or productivity, I certainly think it is wrong to counterpoise it against prices and make the rise in wages dependent on keeping the price level down. Take, for example, the recent trend in prices over that for the last few years, particularly during 1967-68. According to the Planning Commission, and Dr Patel knows better than I do, the wholesale prices rose by about 11 per cent over the previous year. The Planning Commission has expressed the opinion that almost the whole of this rise was due to a rise in food prices. So obviously, wages, at least the wages of industrial workers, have nothing much to do with this rise.

Patel: I don't think that anybody will argue that in the past two or three years the price increase was due to the rise in wages.

Gupta: No. What I mean is, we have a situation when the Government is resorting to deficit financing on quite a big scale.

Venkatasubbiah: I really had in mind the financial policy of the Government being responsible for the price increase. The figure involved triggered off a chain reaction of the demand for a rise in wages.

Gupta: In fact, the prices have been decontrolled over quite a big field last year.

Venkatasubbiah: That is to provide surpluses for re-employment in industry. Do you have anything to say Mr. Chentsal Rao?

Rao: I would like first to go into the question of maintaining prices. I hope you are not having the idea that the price control should be extended or applied to all commodities. In fact you might then think of a solution which may be worse than the disease. Take, for instance, the agricultural prices. Surely the Government is not going to control the agricultural prices if what the country wants is more agricultural production. After all, there must be price incentive for the farmer. So far as the industrial worker is concerned, during the last few years one

point has come out very clearly: that the wages of industrial workers or of any section of community must keep pace with the per capita income. When I say "keep pace", I mean that it should not be completely out of alignment with the per capita income.

Venkatasubbiah: Let us be very frank, Mr. Chentsal Rao. Your salary and my salary do not keep pace with the per capita income of Indians.

Rao: I entirely agree with you. Considering that we constitute the bulk of the population, I mean a sizable section of the population...

Patel: What do you mean by "we"?

Rao: Himself, myself, and you. Suppose we constitute ten per cent of the population, which we don't. Now, the industrial class does constitute a good section, a segment of the working class.

Patel: How much is it? The entire salary or wage-earning class would be 13 per cent of the total work force.

Venkatasubbiah: Though it is not very large, it is substantial.

Rao: When I say a segment, surely, you and I do not constitute even 0.1 per cent of the population. For this 13 per cent, their incomes are increased at a time when agriculture, particularly food supplies, were not forthcoming during the past two years. These (incomes) were increased because the food prices had gone up, not because the productivity of industrial workers had gone up.

What really happened is that the imbalances have been aggravated. Here is a lesson which I think we have got to learn: that you can't really increase the remuneration of some 13 per cent or 15 per cent of the population without any reference at all to the supply position of foodgrains because, after all, our economy is still dominated by agriculture. Now if that lags behind in supplies for at least urban areas, and then if you increase the other prices because the prices of foodgrains have gone up, a vicious circle sets in. I am quite convinced myself that this could have been avoided, provided there was some restraint in the increase in wages for industrial workers.

Venkatasubbiah: This really brings us to the question of the effect of one on the other. Let us assume that there is a series of good harvests and the food-grain prices can be held and generally industrial production is looking up. If the consumer articles also go down in price, can we assume that the wages would not rise? I mean there should be some rise in wages in the normal course also. There still would be an agitation for a rise in wages. So that is the economic problem of the productive system.

Patel: Let us take something over which most of us agreed. Nobody would say that the general level of prices must rise as fast as it has risen in the past two or three years. I think you would all agree to a three or four per cent rise in the general price level per annum. It is about all that should be there. If something more than this is there, it will create difficulties in many spheres including the sphere of industrial production. If the prices were to rise, I am sure, all

turn to PAGE 14

The New Science Committee Should Prepare

A BLUEPRINT FOR INDIA'S SCIENCE AND TECHNOLOGICAL GROWTH

A. RAHMAN

THE scientific community would welcome the establishment of the Committee on Science and Technology (COST) as the first significant step towards institutionalising science policy in the country. How effective it would be depends on how far it is able, besides disengaging itself from the tradition of the Scientific Advisory Committee to the Cabinet, to involve the scientific community in policy and decision-making processes and create the necessary machinery for studying diverse aspects of science policy, and establish channels of communications between different institutions, groups and strata of scientists. It would thus be able to give the decision-making machinery both a quantitative approach and a wider base.

A major feature of the scientific community in India, which is of particular relevance and has to be taken note of, is the fact that while the large majority of the scientific community were below 40 years in age, most members of the policy-making and decision-making group have been above 55. This age

difference would not have been of any significance had the division not been so sharp and associated with the differences in the outlooks and attitudes of the two generations. The radical transformation which science has undergone in recent years—from an esoteric discipline to a major national investment and a social force bringing about radical transformations—has brought to the fore newer concepts and attitudes and the need for a new management system. The older generation, owing to their emotional attachment to the heroic concept of science or for other reasons, is neither able to appreciate nor accept these new developments. It tends to ignore the mood and demands engendered by these developments and to isolate those who voice such demands from the decision-making groups. Consequently, the gulf has become wider and has resulted in serious consequences in terms of the organisation and growth of science, the research trends and the migration of a large number of talented and creative minds from the country.

One of the tasks before COST would therefore be to establish channels of communication with the scientists whose ages are below 40, particularly below 30. The persons in these groups have so far been only told to do things kept on the fringe of policy-making and their ideas, if they had been utilised, were done so only through proxy. COST has to organise these people, enable them to think positively and encourage them to study various aspects in some detail of the problems involved in science organisation, planning and related areas. Further, it has to give them a sense of participation by involving them directly in the thinking, policy and decision-making at various levels. Unless this involvement is deep, there would be hardly any commitment to science and technology as an instrument of economic and social development of India. In the absence of such a commitment, the young scientists would remain career-oriented and self-centred, rather than goal-oriented and acting with a feeling of and for the community, and the achieve-

The gulf between the majority of the country's scientific community who are below 40 years old and the policy and decision-makers who are mostly above 55 has resulted in serious consequences for Indian science. The new Committee should try to establish communication with the young scientists.

ments would not be in consonance with the efforts put in.

The need for establishing machinery for collecting basic data, refining concepts, methods and techniques and studying specific problems is urgent. Advanced countries, who have taken the major steps in institutionalising science policy, have established a network of researchers, groups and institutions for these purposes. This has paid rich dividends by way of creating a new and finer appreciation of the social problems of science and integrating scientific and technological decisions with economic, political, cultural and social activities and objectives. Thus a new refinement has been introduced and new dimensions added to decision-making.

In India this aspect, namely the creation of machinery necessary for the study of the problems involved, had not attracted much attention. So far, only one organisation, the Research Survey and Planning Organisation of C.S.I.R., did some work. The studies brought out by this organisation have created the necessary impact and have aroused interest amongst scientists to give more thought and study systematically the problems of organisation, planning and productivity of science. As a result, a few workers have started studying some problems and some groups have been established. The number of scientists involved, the groups created, and the problems under study are still too inadequate. Similar work in the field of manpower—collection of necessary data and utilisation studies—has been done by the Scientific and Technical Manpower Directorate of C. S. I. R. COST would do a significant service if it were to strengthen those groups which already exist and help in the creation and support of a larger number of persons and groups to study these problems. In doing so, it would also be helping in the first process, namely the involvement of the scientific community in the policy-and decision-making machinery.

Broadly, the problems before COST are three. Firstly, to determine the quantum of investment in scientific and technological research; secondly, to work out priorities,

distribute resources to meet various demands and correlate allocations with the policy of industrial development; and thirdly, to build up a suitable network for evaluation to assess the utilisation of resources and the degree of attainments of various goals—to give a feed-back to the decision-makers.

(i) Quantum of Investment

The basic question regarding the quantum of investment in research, really posed at the Lagos conference of UNESCO, is whether it should be limited to what is made available or whether necessary resources should be created for achieving certain well-defined goals. If scientific and technological education and research is considered a part of social services, then probably the former approach would prevail. However, if it is considered as an instrument of economic and social transformation, then the latter approach has to be adopted.

Science Policy should be Institutionalised on a Broad Base

CASTASIA, held recently in New Delhi, has recommended one per cent of GNP by 1980 as an expenditure on research. This may appear reasonable for many Asian countries, but it would be worthwhile to bear in mind that the acceptance of such a target would mean slowing down India's rate of growth and keeping her a backward nation. In this connection it would be worthwhile to refer to an O.E.C.D. study, carried out a few years ago, which significantly pointed out that at the present rate of growth, the developing countries would catch up with the current standard of the advanced countries some time after 2000 A.D., but by that time the advanced countries would have made rapid progress and the current gap would be wider.

Taking these considerations into account, there is really no choice but to create resources for scientific

and technological research for well-defined goals. The only limiting factor at any point of time would be the lack of availability of the necessary trained manpower. Consequently, COST would have to give serious thought to the curtailment of admission to the technical colleges and the problem of brain drain. In addition, it has to study the problems of diversification of training in different fields and at various levels, the patterns of employment and suggest some practical steps to better utilise our trained manpower.

(ii) Allocation of Resources

The allocation of resources has become a difficult problem, particularly in view of the strong and established tradition of making organisational and departmental allocations. Some efforts were made earlier to consider the problems of scientific research from the point of view of specialised subjects, commodities and taking each industry separately. These, however, were not successful in view of the pressures to make allocations to organisations and government departments. Consequently, the programmes for research as were envisaged had to be thought of in the context of the existing organisations and the facilities available there. For instance, if one has to think of a major investment in research in the field of electronics and a concentrated research programme with definite industrial goals, one has to take into account 20 or more institutions. These institutions function with varying degrees of efficiency and have widely varying facilities and potential for utilising resources. They receive their funds through different Government Departments and are governed by different rules, regulations and practices. Consequently, in the absence of a national policy, programme and co-ordinated work, these institutions, instead of complementing each other's efforts, may have worked on unconnected problems and thus may not have given any tangible national results.

The major problem would, therefore, be to decide about the method of allocation; whether it should be on the basis of institutions, projects or areas. Each type has its advantages as well as disadvantages. Allocation on the basis of projects or areas could be

specific towards a well defined goal but it would raise the question of the institutional collaboration and supra-institutional co-ordination, on the one hand, and the problem of developing and sustaining the infrastructure of research in different institution on the other. The allocations of resources to institutions doing research in well-defined areas, as has been the case so far, raises the question which had been asked currently with regard to co-ordination of effort and return from research investment.

The situation as it exists is not very clear. There is hardly any data to guide the Committee. For Instance, the total involvement in terms of investment of funds and manpower in different branches of science, like physics, chemistry, biology and mathematics, or areas of research like Atomic energy and space research is not known, nor is there any data to suggest the relative expenditure on fundamental, applied and developmental research and the researches connected with different sectors of industry. Besides, there is hardly any systematic information, outside one's own experience in a laboratory, on the organisation of research under Indian conditions. It would be interesting and relevant to know the relative areas and the proportion of expenditure in a laboratory per unit of research programme, the efficient use of infrastructure in relation to the size of a research laboratory, the impact of current rules and regulations in execution of research programmes and the effect of the existing management system on the productivity in research.

The problem of allocation is also closely linked with the working out of priorities. If priorities are to be determined on the basis of the policy of industrial development, then there is a need to critically examine the earlier pattern of allocation. In an earlier study *Lok Udyog*, May 1967, pp. 67-74) it was shown that the major areas of investment in research and development were neither in the major areas of industrial development nor of import. This pattern during the three Plan periods has resulted in the growth of research and the continued import of know-how and technology. This problem requires a more intensive study than has been made so far to

serve as a basis for evolving policies and priorities for allocation. Further, the necessary policies have also to be developed for creating facilities and promoting research in areas where import of technology is necessary. This might be done in the way it has been fully developed in Japan, for instance, or is developed in the field of Atomic energy in India.

(iii) Utilisation of Results

The major problem in relating research to industrial development would involve detailed study of the existing practices in the industry, both in the private and public sectors. Even in the socialist countries, the translation of results of research to industry has not been a simple process. In countries like India, it is specially difficult in view of the apparent advantages in the import of know-how and technology as against the investment required in scaling up laboratory or pilot plant results to the industrial level. The scaling-up method may be advantageous from the national point of view. But in view of the uncertainties of final results, the problems arising out of the present technological level of the country in fabricating facilities, and possible returns from investment, it may not be attractive to the investor or a specific factory or industry.

A considerable body of information and literature would have to be made available made to the policy-maker if a rigorous evaluation of the implementation of policies and their impact has to be made to serve as a basis for future guidance. There is therefore a need for a network to collect diverse types of information and carry out analytical and other studies on a number of problems to give quantitative basis to decision-making.

The decisions, where they are based on technical information and conclusions, would have to be followed up in the degree of implementation by different institutions, study of problems generated by the implementation of policies and the latter's impact, and the goals attained to serve as a feed-back to policy-and decision-makers. Unless this is done, the earlier exercise may not have much relevance and the correctness or otherwise of the decisions may not be known.

ABSENCE OF EVALUATION

One of the major shortcomings of the planning machinery in India in the field of scientific research has been the absence of evaluation machinery. Because of this, a clear picture of the achievement of scientific research in India is not known, nor could it be said as to where it has gone astray and why. It would be worthwhile, therefore, as was pointed out by Professor Gadgil, to study those factors which have come in the way of Indian research being productive.

The development of the machinery to meet some of the above-mentioned needs and the necessary studies would take time. It may be, therefore, worthwhile for the Committee to take certain basic decisions.

It could, to begin with, scrutinise and analyse the available information and determine the purposes for which it could be used, and then decide about the information to be collected hereafter, the degree of accuracy required and the period in which it should be made available. It may also develop a programme of using those who have acquired expertise in such studies as consultants to specific problems, or engaging them for the study of special problems. It may encourage and promote research groups and institutions who are studying these problems and utilise them for specific studies which are urgently required. Further, it may work out an outline of problems in the field of planning, organisation and utilisation of research for national development and self-reliance and suggest an approach to tackle them and prepare a blue-print for scientific and technological plan and throw it open for discussion in the scientific community. These steps would go a long way in institutionalising science policy and giving it a broad base.

The tasks before the Committee on Science and technology are tremendous, but so are the opportunities. The earnestness with which it tackles these problems would determine the future science and technology in India and our drive towards self-reliance.

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MANPOWER PLANNING ESSENTIAL

More Investment for Engaging Technical Personnel

KAMALESH RAY

THE spectre of unemployment amongst our engineers has disturbed the country as also distorted our vision of engineering in relation to national economy. The grave situation which has developed in the recent time is generally ascribed to the recession and wrong planning. A little thought would suggest that such interpretations are self-contradictory. While planning and forecasting assumes a logical continuity in the development process, the present recession appears to be a sudden break in the continuity. In fact, economic recession after fifteen years of planning is a queer phenomenon. Planning and recession can hardly go together. The pertinent question could perhaps be whether the recession is really sudden or is it a cumulative effect of certain factors over the past few years? This would mean either that the planning is faulty or that there are stronger forces working to offset planning.

Forecasting of manpower requirement is an extremely difficult exercise, particularly in a country which has to make her way through divergent forces, conflicting ideologies and changing interests. It is, therefore, impossible to guarantee a matching of demand and supply of engineers or other trained personnel. We should not be surprised if in a particular year we hear of a surplus, and, in the next year, of a shortage. This may happen overnight if we change our strategy of work. The requirement of personnel depends on the kind of work-programme that the country adopts, and not merely on the investment.

Investment is a deceptive indicator of the requirement of scientific and technical manpower. The Annual Plan for 1968-69 is tentatively placed at Rs 2,337 crore, of which internal resources would account for nearly 62%, including 13% through deficit financing. The remaining 38% is to be foreign assistance comprising of foreign aid (26%) and PL 480 funds (12%). To what extent would this foreign assistance, which amounts to Rs. 876 crore, controls the work strategy? Most of the funds will be consumed in importing major equipment, know-how and expertise. This investment

is not likely to generate good enough work (qualitatively and quantitatively) for well-trained and well-educated engineers and scientists. The nature of investment moulds the manpower requirement and therefore a straightforward correlation between total investment and manpower becomes difficult to establish.

The other factor of planning is the physical target. Even the physical targets would not clearly indicate the requirement of engineers and scientists. It depends upon how we are going to achieve the physical targets.

Since the scientists and engineers perform certain work, it is the planning of that work which decides the manpower requirement. In order that manpower demand can be projected, the planners must indicate work strategy in addition to investment and physical target.

TRUE FUNCTION

We appear to be under the impression that productive employment of the engineers only means employment where engineering production actively takes place. In fact, production begins after engineering ends. Production comes at the fag end of engineering work, and merely involves maintenance and running an industry. These are mostly routine and repetitive work processes. The real engineering work happens to be in the preparatory stage at which no industrial production strikes the eye. These are the works involving research, development, design, surveying, planning, cost engineering, project report writing, and so on. We are generally oblivious of the importance of these works where intelligent, imaginative and competent engineers are required. We are even inclined to think that the preparatory work involves unnecessary expenditure because it does not immediately yield monetary return. Many of our projects have progressed haltingly because of the lack of adequate preliminary engineering work, resulting in delay in execution and increased cost. The lack of adequate preliminary scientific and engineering investigations impede the work of engineers and administrators as the complete picture of involvement never becomes clear. This leads to chaos and confusion, which cost the nation heavily.

THIS INDIA

YOJANA invites contributions to this feature from its readers. Each anecdote must be true to life, of less than two hundred words, capturing something significant of India's rich and varied life. Each published anecdote will be paid for.

A friend of mine, who belonged to a 'high' caste, wanted to marry a girl from a very 'low' caste. He was keen that I should stand by him and help him to effect the marriage. The marriage took place before a Registrar. I signed the registration papers as a witness. The marriage party included only fifteen members.

When I returned home, my parents and sister took me to task. My sister said that my role in the marriage hit the prestige of our family. Further, she argued, my act estranged our family from my friend's.

Next morning my sister, who is a teacher on social studies in a local Municipal school, was busy preparing her teaching notes. I looked into the open textbook. The lesson was 'The Mahatma'.

"What do you think are the Mahatma's important teachings?" I asked.

"Truth and Ahimsa."

"Did he not do anything for the untouchables?"

"He made them touchables."

"Didn't he advocate inter-caste marriage and dining?"

"Yes."

"Then, why did you object to my taking part in my friend's marriage?"

She was silent.

"Am I not right in that?"

She put down her notebook and went into her room.

Coimbatore METHIL SUDHAKARAN

We were returning from our office in a local bus. One of the passengers, apparently an educated villager, gave a ten rupee note to the conductor asking for an eight-paisa ticket. The conductor said, "Bhai Saheb! Can't you read the sign-board, Please Bring Small Coins?" The villager at once replied, "There is another board bearing the slogan 'Please Insert Loop.' Do you expect me to get the loop inserted?"

Chandigarh M.G. GUPTA, S.S. GILL, M.N. RISHI

I was playing cards with some of my hostel mates on the day of Durgapuja. We all belonged to Punjab.

In the meantime another hostel mate, a student from Bengal, came there. He asked me if I could lend him Rs 20. When I asked him why he needed the money, he replied, "I want to buy a Punjabi." We were all surprised. Later on he explained that this was a special kind of long shirt worn along with the *Dhoti* by Bengalis on ceremonial occasions like Puja. We all burst into laughter.

It is strange that in Punjab we call the same kind of shirt, Bengali.

Jamshedpur M.M. KAPOOR

I was the Returning Officer for a panchayat election. The election schedule was: acceptance of nomination forms—10 to 11 a.m.; scrutiny—up to 12 Noon; withdrawals—up to 2.00 p.m., and declaration of the final names of candidates—2.00 p.m. None came till about 3 p.m. when eight persons turned up and asked me to take the nomination forms. I told them that the time was already over and asked them why they did not turn up in time. One of them, who said he was the only candidate for the Sarpanch's office, replied that the election of their panchayat had already been completed the previous day. I found on enquiry that the Tehsil congress party had a meeting of all the voters of the area and had unanimously decided to elect these persons for different posts.

The persons who came told me that "as we have already been elected, we went to attend a marriage party in a nearby village. Now even if you don't accept these nomination forms, we will be members of the panchayat."

Meanwhile the Collector turned up and asked me to accept the nominations and declare them elected.

Udaipur S.S. ACHARYA

Hearing shouts of people coming out from a nearby place, we went to the scene. A big crowd had collected near the village temple tank.

The sacred tank was used for holy bath and washing, but some cultivators had utilised the tank water for irrigating their fields and had almost emptied it. This had led to a quarrel and heated arguments were being made from both sides. As there was acute shortage of rice in Kerala, some cultivators had grown a third crop, where only two were grown before. For the additional crop, they took water from the tank in anticipation of the rains which somehow did not come off and the tank water had depleted.

Now other villagers had come to the tank to close the outlet to fields and they were threatening the cultivators with serious consequences if the outlet was opened.

A month later, I came to know that the crop was completely destroyed for lack of water and with it also the enthusiasm of the cultivators to grow more food.

Calicut VISHNU NAMBIAN

The great possibilities and benefits of the preparatory work have yet to be fully appreciated. In every field of future developmental activity, deeper technical considerations are necessary. Whether it is the expansion of the network of roads and highways, establishment of paper industry, urban planning, rural electrification and development, establishment of factories for the manufacture of birth control devices, design of future steel plants, adaptation of imported know-how, engineering and economic evaluation of foreign collaborations already entered into, all have to be worked out in their basic technical elements. These may be conceived as miniature technical planning units in certain specific fields or items, which alone can guide our future planning and action in a realistic manner.

We need to put in much bigger engineering and scientific efforts in producing fertilisers and pest control chemicals. In both the spheres our engineers and technologists are cornered by foreign interests. The country has been suffering from flood damages to the tune of about a hundred crore of rupees annually year after year. We have had many irrigation projects, we have built many dams. There does not appear to be adequate technical evaluation of the effect of the dams on the flood situations. We may have to shift our emphasis from multi-purpose dams to purely flood-control dams to solve the problem. This would need very wide engineering considerations. While family planning has been taken up as a national policy for over a decade, we have failed to establish factories for production of birth control devices. We are only waiting for the foreign collaborators to come, since we have not done the preliminaries in the way of engineering planning and designing for the required plants. Engineering research and development, innovation and consultancy

provide practically unlimited scope for purposeful employment.

FRESH APPROACH

Examples will be found in many specific areas where engineers and scientists must provide the basic technical data along with their preliminary designs and suggestions in order that the national plan can be formulated on a sound footing. Engineers and scientists are needed even for identification of problems relevant to the country's economy.

This fresh approach to technical employment would be extremely purposeful in creating the base of national development. Though at the moment the expenditure would appear to be non-productive, its economic implications will be felt in the years to come. Such preparatory work will not only reduce the cost of the future projects but will also accelerate the tempo of our industrial and economic activities.

Manpower planning is a part of economic planning and vice versa. They need constant review and adjustment. In the past, we have worried over non-matching, but have hardly gone in for adjustment. The apparent surplus of engineers and scientists shows that engineering and scientific work has not been planned for them. We have assumed that the quantum of investment alone will provide work. We have also assumed that economic growth rate will decide engineering and scientific employment. In the developing stages, slow economic growth need not slow down technical employment. Much more investment is necessary in engaging technical personnel to prepare for a self-reliant take-off. It is the work-plan and personnel utilisation that decide the growth of a national economy.

STEPS HAVE TO BE TAKEN TO INCREASE EXPORTABLE SURPLUSES

AGRICULTURAL commodities constitute the main source of export earnings for the Indian economy. They form over 70 per cent of the country's total exports. Considering the trend over the three Plan periods, India's agricultural exports fall under four distinct categories. The first category covers seven commodities, namely, oilcakes, unmanufactured tobacco, sugar, coffee, fruits and vegetables, hides and skins and fish and fish preparations, which registered a continuous rise in the average value of exports during the three Plan periods. In the second category come tea and raw wool. The exports of this category rose during the Second Plan period but declined during the Third Plan period. The

country's foreign exchange position on an enduring basis. But this did not come true in 1966-67. In the following year, however, a favourable trend was observed. There was an improvement in exports of all the commodities, except oilcakes. (See Table 1). Exports of these commodities were, however, not restored to the levels that existed in the corresponding period of 1965-66. The recovery to the pre-devaluation level was noticeable only in the case of tea and coffee.

Devaluation did not bring favourable effects on India's exports in the initial stages because of certain factors. Firstly, during the years 1965-66 and 1966-67 we suffered from severe droughts, which resulted in reduced supplies both

The improved agricultural situation and the relative stability in prices in 1967-68 hold out the prospect of a rise in exports. The *Economic Survey*, 1967-68, of the Government of India says, "It is likely that the growth of exports, expected to be about 6 per cent during the current year, will be maintained at about the same rate, if not slightly higher, during the next year."

As has been rightly observed in the Study Group Report of the Export Sector Committee "in the next ten to fifteen years, till the manufactures and semi-manufactures are able to establish external markets, agricultural commodities will have to play a pivotal role in the export trade of India. But the capacity to discharge that role is likely to be considerably circumscribed by the growing demands of consumption within the country, let alone the trend of increasing costs." In less developed countries, exportable surplus is generally what they can spare after meeting their domestic demand and it fluctuates with the pressure of that demand. A more basic problem in countries like India is thus that of increasing the exportable surplus. In this context, one of the important pre-requisites is an expansion of total output, because exports constitute only a part of the total output, which goes across the national border. The total output will have to increase at a higher rate than the internal requirements which are continuously rising as a result of growth in population and improvement in purchasing power of the people. Furthermore, with a greater total output, internal and external prices have to be maintained at appropriate levels before a desired exportable surplus can be achieved.

At present, agricultural exports are subject to the vicissitudes of world prices, and these fluctuations have often led to uncertainty over development plans themselves because of the difficult foreign exchange situation. Besides international prices, the level of exports will depend on the price at which India is able to sell in the world market. To improve the competitive position

PROSPECTS OF RISE IN AGRICULTURAL EXPORTS

SADA NAND

third category consists of spices and raw cotton, whose exports fell during the Second Plan period, but recovered during the Third Plan period. Non-essential vegetable oils and lac fall in the fourth category. Their exports showed a decline both during the Second and Third Plan periods.

A notable characteristic of India's agricultural exports has been that most of them went to the U.K. and the U.S.A. In recent years India has been making efforts to export agricultural commodities to more and more countries so as to reduce her dependence on the traditional markets. For instance, exports of Indian tea, coffee and vegetable oils to the USSR have increased. Export of cashew kernels to the U.S.S.R. has also registered an increase whereas that to the U.S.A. has gone down.

Devaluation of the rupee in 1966 was expected to strengthen the

for internal consumption and exports. Secondly, the world demand for most of the agricultural commodities has been highly inelastic. Thirdly, consequent on devaluation, export duties were imposed on a number of agricultural commodities, which reduced the competitiveness of the Indian products. Lastly, the contracts entered into before devaluation were dislocated in several cases due to uncertainty about the likely trend of prices. It is, however, well to remember that devaluation was expected to yield its results over a long period and not immediately.

Mr Sada Nand is a Senior Research Officer in the Agriculture Division of the Planning Commission.

DISCUSSION from Page 8

of us agree that the real wage must be protected by dearness allowance or otherwise. There must be some compensation. There may be arguments whether it should be a 100 per cent neutralisation. Or, should it take the form of something other than a salary adjustment? By and large, one would say, they should be compensated.

Rao: I am sorry. Do you mean to say that you want to compensate only 13 per cent of the population?

Patel: Now, let us say, that is an objective. Supposing there was a situation in which your real national income were to drop. And that is what I think Mr Rao was saying. You must look to the per capita income of the country. When there is less production, everybody's income cannot be maintained. Naturally everybody has to take a certain cut. That is where you come in with your question.

Supposing it is the other way round: the national income is rising; real production is rising; industrial production is going up; there are more consumer goods,

Should there not then be an increase in real wages? Now again, I am sure, everybody would agree that under the circumstances the real wages should rise, unless the situation is what you were hinting at when you were pointing to my salary and your salary.

Then there are other people far more numerous who are poorer than the industrial working class. If you can establish that we are not allowing the industrial working classes' real wages to rise even when the national income in real terms is rising because we want to raise the incomes of the people whose incomes are below those of industrial working class, and it is them we want to take care of, there would again be a general agreement that is what we should do.

Venkatasubbiah: I think this discussion has certainly yielded some common ground, at least a minimum consensus that wages and prices do have certain relationship and it is certainly better that real wages should rise and the conditions of the working classes and the salaried employees should improve and at the same time the large masses of consumers should be given articles of common consumption at least at reasonable prices.

This is an edited version of a discussion broadcast by A.I.R. from Delhi.

Exports of Selected Agricultural Commodities since Devaluation

Commodity	Units	April-March			January-April	
		1967-68	1966-67	1965-66	1968	1967 (Quantity)
Tea	million kgs.	203.3	187.9	195.6	51.5	60.3
Tobacco, unmanufactured	000' tonnes	55.5	37.4	57.0	15.9	15.7
Coffee	"	34.1	25.8	27.4	6.7	8.9
Pepper	"	25.1	21.9	26.2	14.4	9.0
Vegetable oils (non-essential)	"	17.0	13.5	24.3	15.0	3.2
Oilcakes	"	745.9	819.5	818.8	324.7	305.3
Cashew kernels	"	51.1	50.1	51.5	19.3	17.8
Jute manufactures	"	755.0	710.0	940.0	227.0	255.0
Cotton textiles, mill-made	million meters	431.7	402.6	503.5	168.3	151.5
Piece-goods						

of Indian products, it is necessary to raise productivity, reduce production costs and improve the quality of products. Restriction of domestic consumption of certain articles like tea could also increase the export surplus. Although efforts are being made in all these directions, yet the basic fact remains that no export plan of agricultural products can be successful unless sustained efforts are made to step up their production.

The Government of India has in recent years initiated Centrally-sponsored programmes for maximised production of export-oriented crops in different States, under which emphasis is being laid on intensive measures for stepping up per acre yields of such crops, especially tobacco, groundnut, cashewnut, cotton and jute. All possible efforts are being made to supply essential inputs and credit and marketing facilities. At the same time, care has to be taken to ensure that the assistance made available for these programmes is used for securing increased production of various commodities, either for export promotion or for import substitution, and that there is proper linkage between the investment made and the impact on export of these commodities.

NEEDS AND TASTES

Along with efforts to expand traditional exports, possibilities of developing new exports, not only of manufactured goods but also of agricultural products, need to be explored. The needs of overseas markets must largely guide the home industries in regard to what they should produce. In looking for potential customers for Indian products in foreign countries, their

specific needs and tastes have to be closely studied. In this connection observations made in the recent F.A.O. Report on long-term commodity projections may also be taken into consideration.

According to this Report, for the group of commodities, comprising tropical products (coffee, cocoa, tea and banana), agricultural raw materials (cotton, wool, jute, kenaf and allied fibres, hard fibres and rubber) and competing exports of tropical and temperate areas (fats and oils, sugar, citrus fruits and tobacco), the net import demand (at 1961-63 prices) of high-income countries would scarcely grow between 1961-63 and 1975. Inadequate market outlets at reasonably remunerative prices would be the major problem facing most of these commodities. On the other hand, the net import demand of high-income countries for commodities like meat, coarse grains and forest products is likely to show a more satisfactory rate of increase during this period. Care also needs to be taken to see that goods offered to overseas markets are properly designed, suitably packed and rightly priced. Besides, there has to be stability and modernity in the economy of established export industries, such as cotton textiles and jute manufactures. Further, to develop agricultural exports, research for product development, market operations to ensure minimum support prices to the growers and guaranteed outlets for full production along with provision of transport and storage facilities have to be given high priority. The minimum support prices have to be fixed at suitable levels so as to provide incentive to the producer

to invest more in agricultural production and improve its efficiency, as also to enable the exporter to sell the products in competition with exporters from other countries of the world.

INTERNATIONAL CO-OPERATION

Apart from these measures, fulfilment of export targets laid down in the Five Year Plans also requires a suitable international climate, specially a readiness on the part of the developed countries to accord better access to Indian products. This also implies India's willingness to adopt a flexible attitude in its trading patterns and policies. In particular, greater attention will have to be paid to long-term trade agreements, as this would enable the proper tie-up of planned production with export promotion.

This leads one to the importance of international co-operation. UNCTAD-I had recommended action to improve the condition of international commodity trade so as to stimulate growth and ensure a reasonable degree of predictability in the real export incomes of the developing countries. The recommendations, *inter-alia*, included stabilisation of prices of primary commodities, reduction of tariffs and removal of other barriers affecting the exports of developing countries and increase in the inflow of developmental assistance.

This was reviewed at UNCTAD-II which noted that the action taken since the first Conference had not stimulated trade to a degree commensurate with the expectations of the developing countries. The desirability of more resolute action to reduce or eliminate, wherever possible, restrictions which adversely affect developing countries' export earnings from primary products was recognised. There was no difference of opinion that the removal of barriers to trade was of major importance for the expansion of commodity exports, particularly those from developing countries. Also, it was realised that freer access to markets for unprocessed, semi-processed and processed primary products would contribute to faster economic growth in developing countries.

In this context, it was suggested on behalf of the developing countries that negotiations should be undertaken for an action programme of trade liberalisation covering reduction and ultimate elimination of various tariffs, internal taxes and fiscal charges on all primary products including processed and semi-processed primary commodities imported from developing countries. For this purpose, the need for the adaptation of the UNCTAD machinery to facilitate increasing use of the procedures of consultations and negotiations was emphasised.

In the opinion of the developed countries, GATT, UNCTAD and particularly its Committee on Commodities as also the various commodity councils and commodity groups provided adequate forum for consultations and negotiations. On the subject of trade liberalisation, little progress was made with the advanced nations promising nothing more than study and discussion. The lead, however, given by UNCTAD II should make it

possible for international negotiations, such as FAO and GATT, and, above all, individual developed countries to devise concrete measures for mitigating the difficulties of developing countries in regard to their agricultural exports.

Agricultural and agriculture-based commodities will continue to have a predominant position in India's export trade in the next 10 to 15 years. Though the share of manufactured products in the total export may increase, it is essential to ensure that the value of agricultural exports in absolute terms does not decline but instead goes up during this period. This is not an easy task considering the low elasticity of demand for agricultural commodities in the world markets and a relatively low rate of growth of production and high prices prevailing in the country. Concerted measures will, therefore, have to be taken to step up the output of agricultural commodities and to improve their competitive position abroad.

of new high, yielding varieties of foodgrains, a breakthrough in foodgrains production is in sight. Research efforts need to be intensified to evolve similar varieties of commercial crops which may help in improving their productivity and reducing per unit cost. Other measures, such as improvement of quality, suitable designing and packaging, publicity, studies of foreign markets on a continuous basis, assured supplies for export markets at reasonable prices and adjustment of export duties, are of no less importance in a programme for export promotion. In some cases, it may be necessary to establish suitable organisations for canalising exports.

The production of heavy engineering goods has increased by 23 per cent during the first quarter of this year. The maximum increase has been in the case of heavy structurals, whose production has almost doubled in the same period.

JOINT FARMING AT THUMBA

(from page 5)

were no longer at the mercy of the local speculators in seeds and seedlings who specialise in exploiting the difficulties of the cultivators and who have a field day when rains fail to come in time and the seedlings wither away, necessitating fresh nursery operation.

In addition to getting first class fully treated seedlings, the farmers had an additional benefit. The common nursery was able to sell surplus seedlings to neighbouring blocks for which it got Rs 500, which helped to cut down costs further.

The farmers also get insecticides at subsidised rates and the spraying and dusting with power sprayers is done commonly for the entire area. The insecticides are contributed in equal shares by FACT and Ballis India. Fertilisers are also supplied by FACT at a subsidised rate.

Most important, FACT has posted three field staff in the locality to be always at the beck and call of the cultivators, to supervise

every stage of their activity and to give advice and guidance whenever necessary.

The unique feature of FACT's experiment is that it is absolutely informal. The Karshaka Sangham has no constitution, no bye-laws, and rules. It works on an oral arrangement based on mutual understanding and benefit. A name board is there, a makeshift one, consisting of an old piece of cloth. Apart from the printed receipt issued by the Executive Committee for contributions towards expenses received, and printed instructions issued by FACT, the organisation is strictly informal. It is verily a Fraternity of Farmers.

A highlight of the enterprise is the total absence of official formality by way of returns, statistics, inspections and reports which could and does curb the initiative of the cultivators and keep them in a position of junior partners in the operations. Nonetheless, it is very dynamic. For the first time the farmers are assured of the benefits of scientific farming which presages record harvest for

each one of them. There is no usual scramble for men and materials for harvest operations and no sense of uncertainty too.

The cultivators proudly point out the difference between the healthy robust crop in the demonstration farm, run by them, and those in the neighbourhood, which look anaemic and straggling.

This experiment is of great significance in Kerala where most of the land is owned by small holders. This example could be copied with great benefit by other cultivators all over the State.

FACT has once again proved true to its slogan "FACT-First in the Field". Its hundred-acre demonstration farm is the first of its kind in the country. And its success would mean a great boon to the small farmers throughout India, groaning under the ill-effects of subdivision and fragmentation of holdings, the better methods of cultivation always eluding them—better seeds, better implements, fertiliser and pesticides, all being beyond the pale of their reach. Agriculture can then be a paying proposition even to the owner of a four cent plot.

HIMALAYAN FISH CULTURE

THE rugged, sturdy Gorkhas, who have always been the pride of the Indian army and whose fighting qualities have become a legend, have been traditional meat-eaters. A change in their food habit is, however, imminent as a result of the efforts now being made to develop fish-culture on the lofty Himalayan heights of Kathmandu, the Nepalese capital. A German expert in fish production, Kornelius Karl Zwilling, who has a 300-year long family history of pisciculture, has been in Kathmandu for the last two years designing two fish farms.

When completed, the farms will be capable of producing 280,000 fish a year for the market at Kathmandu.

Some 1,300 workers are busy digging the first of the two farms at Pipley near Hitaura, south of Kathmandu, covering an area of 26.5 hectares. The second, a 109-hectare unit, is to be built during the next two years at Bhandar Hardi in the Rapti Valley 25 miles away.

Mr. Zwilling, who has designed fish farms in Europe, West Asia and Africa, has been helping Nepal with its pond culture problems since June 1963. Mr. Zwilling, whose home is near Salzburg, has travelled extensively through Nepal. He says there is fine river fishing in the country and excellent possibilities for sport fishing. "But here I am not interested in fancy fish such as trout", he said. "What I am seeking is quantity production for all the people, not just a privileged few."

The common carp, introduced originally from Israel and West Germany, has been chosen because it is well suited to the climate, unlike the more delicate Indian variety. Also, it is easily bred, feeding on almost anything, and is highly nutritious.

The demand in Nepal for fish has become "tremendous", says Mr. Zwilling. At fish farms the fish is sold as quickly as it is taken out of

the pond. Production, though still very low, has increased to about 20,000 pounds a year in the Kathmandu area. Use of rich paddies and river and lake fishing offer new sources of fresh fish.

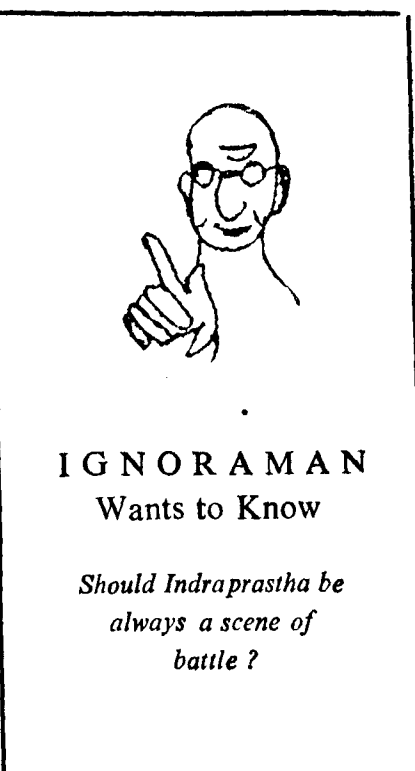
One big problem is the lack of suitable roads and transportation facilities and a shortage of icing and freezing equipment. This hinders wider distribution of fish. For this reason the Pipley farm was situated on the old military road linking directly with Kathmandu. Other problems are being slowly surmounted. These include the reluctance of some tenant-farmers to introduce fish into paddies that are not theirs and the general tendency to regard fishing as an ancillary occupation to farming. The fish culture project is, however, being expanded to include development of river and lake fishing.

NON-CO-OPERATOR TO CO-OPERATOR

FROM a "non-co-operator" to an active and devoted "Co-operator" is a big jump, but Vamanjoor Krishna Upadhyaya has made it. An active and passionate participant in the *Satyagraha* movement in the early thirties, he became a journalist to give expression to his feelings. His fiery nationalism got him into trouble with the authorities, and eventually Mr Upadhyaya had to look for a job. That was in 1940.

Life began anew for him when he returned to the co-operative movement, which he had abandoned when he became a non-co-operator. After taking over as supervisor of the Taluk Co-operative Land Mortgage Bank he plunged with new zest into the movement, which was his first love. And, that is where he has been working for the last 28 years. When the name of the bank was changed from Mortgage Bank to Development Bank, Mr. Upadhyaya was given his present designation of "Secretary".

A bachelor, Mr Upadhyaya lavishes his affections on a succession of pets. His "family" has never been the same. At different times



he has reared a squirrel, a cat, a rabbit, a parrot and a female tiger cub. The last of his pets, which was brought up on a diet of milk, did not survive long. When it died one evening, the sorrowing owner buried it outside his window across the street. Even now, he often looks up from his work at the grave of his beloved "Meena".

Mr Upadhyaya is a household word with the farmers in the Taluk. The work of the Bank is literally done by him singlehanded. His daily chores include sweeping the room clean and keeping all his papers and books in perfect order. He is his own typist, clerk and accountant. From early dawn to late at night he toils in his office, situated in an upper room in an old house in a by-lane.

Mr Upadhyaya not only provides co-operative credit to farmers, but gives them advice and counsel on how to use it. His only hobby is reading, and he takes immense pride in his library. After a few years, he will retire from his job, but not from active work. He plans to return to his native village to look after his fields and the primary school which he has helped to build up. But the farmers whom he has helped on the road to prosperity will not forget him.

BOOKS

Profiles in World Trade

Trading with the World: Country Profiles. Published by Indian Institute of Foreign Trade, New Delhi. Pages VIII+624. Rs 19.75.

B.K.

[T] is now widely acknowledged that the success of India's export promotion effort depends, to a large extent, on the availability of up-to-date and reliable information about export markets, economic trends abroad, trade relations among nations individually and as regional groupings, balance of payments position and trade perspectives in the context of national development plans. Relevant literature concerning individual commodities is being produced by specialised agencies dealing with those commodities, such as Export Promotion Councils and Commodity Boards. Studies on individual countries have been prepared by the *Economist Intelligence Unit*, London, the State Trading Corporation and the Directorate of Commercial Publicity. The publication under review is intended to supplement these efforts and to provide at one place information on economic conditions in general and export-import trade in particular in respect of 100 countries.

Each country profile in this publication gives salient features of the economy, pattern of economic development, demographic and commercial data, import policy and foreign trade, with special reference to trade with India. For each country, there is a brief resume of the prospects of trade in the context of economic development in the country concerned. The last chapter contains brief information about the formation, composition and functions of the various regional groupings referred to in the country profiles earlier. An additional feature is a map of each country.

This comprehensive publication, which is striking for its brevity, is, at the same time, a mine of information to meet the needs of a variety of interests. A journalist despera-

tely in need of economic and statistical information about any country, say, remote Bolivia or the city-state of Singapore or little Trinidad and Tobago, may confidently depend on this book. An athlete preparing to leave for the Mexico City Olympics will find the publication equally useful. Though meant essentially for businessmen looking for markets, the publication provides authentic information on such matters as hours of business in commercial and business establishments, principal hotels, important banks, and a panoramic view of the country.

The IIFT will be rendering a useful service if it can publish the

How Colonialism Smiled

England's Debt to India by Lala Lajpat Rai. Published by the Publications Division, Patiala House, New Delhi-1. Pages 242. Price Rs 6.50

H. C. Bisht

THE British imperialist structure along with its industrial revolution was founded at the death-knell of Indian economic and social advance. What India lost, England gained. There is ample evidence to show that Indian people lived in a state of better economic prosperity before the advance of British capitalism and that the imperial fiscal policy was largely responsible for the decline of Indian trade and industry, particularly handicrafts.

Niccolo di Conti, travelling in India in 1420, spoke of powerful Indian cities filled with gold, silver and precious stones. Barbora, Batema Caesar Frederick, gave similar accounts of Indian prosperity a hundred years later. Ibn Batuta and Abdurisag, an ambassador from the Court of the grandson of Tamarlane, who visited South India in 1442, wrote of India's affluence. The Mahratta Queen, Ahalya Bai, is said to have rejoiced when farmer cultivators, bankers and merchants

book as an 'annual'; so that it can be of lasting value. While updating it for the next edition, it will be worthwhile to give more information on each country. As a safeguard against bulk, this could be done by using smaller type used in the present edition. There is also room for improvement in the production and presentation of maps. A glaring omission in economic data is the per capita income; for without information on this score it is not possible to compare the economic levels of various countries. The matter given under the title "Economic Development and Trade Prospects" in country profiles is too brief to do justice to the subject. Indian exporters being particularly interested in trade prospects, it will be profitable to bestow more time and energy on compiling material on prospects of trade.

rose to affluence. Akbar abolished capital taxation on infidels and taxes on pilgrims, which reduced the amount of public demand considerably. His revenue reforms helped ease oppressed ryots. A. J. Wilson writing in 1884 on the "drain" says that England drew fully £30 million a year from India, while the average wage of the native population was £5 per annum, which means the abstraction of more than one-tenth of the entire substance of India every year.

At a time when the whole of Europe was reverberating with the spirit of industrial renaissance, India, as a result of industrial setback caused by foreign exploitation, was helplessly clinging to ruralisation and experiencing increased evils of the problems of landless labourers, oppressive land taxation measures, fragmentation and subdivision of holdings and a new exploiting group of middlemen called the *gumastas*. It was a natural corollary to the zamindari system in Bengal and the introduction of the ryotwari system in South India. Saving and investment, which hold the key to economic advance, were reduced to a nullity. Thus the luxurious aristocratic smile which hung on the face of industrial and social

development of Britain, disdained the tottering backbone of the sub-continent caused by increased public debt and over-taxation.

Prior to 1760, the machinery used for spinning cotton in Lancashire was as simple as that used in India. But with the flow of unlimited Indian raw material, the British industrial machinery was in a way forced to become sophisticated and advanced to gobble up more and more of Indian produce. In the eight years of its enterprise the East India Company made a profit of 171 per cent per annum on its investment.

In the sphere of foreign trade, the British imperial monopoly over the whole spectrum of Indian exports and imports gave catastrophic blows to the Indian agro-industrial revival. Lord Hailey's book "The Future of Colonial People" discusses the trend of dictatorial monopolism implicit in alien rule.

The report of the Royal Commission on Indian Expenditure Volume II page 305 shows at length that all the ordinary and almost all the extraordinary charges of the First and Second Afghan Wars, the First Chinese War, the Persian War, the Abyssinian War, the Perke Expedition, the Egyptian War and the Sudan War were paid by India and the bulk of the army operating in these wars was also Indian.

This is the background of events which furnished the argument to Lala Lajpat Rai's book, "England's Debt to India" first published in 1917. A patriot to the core, he raised his strong voice against British injustice in social, economic and political spheres, which was symbolic of the motherland's rebellious resentment against foreign exploitation. He became a virulent critic of the foreign machinery operating in the country, especially on the economic level. In condemning the Anglo-Saxon Lordship in India over questions of wealth drain, fiscal policy, the appalling extent of illiteracy, chill penury of crores of its half-fed people and over-taxation, he did not wish to malign British individuality and its character but simply crusaded for the inherent right of the people of the sub-continent.

"England's Debt to India" turns out to be an important historical

document. It presents an objective and factual picture of the fiscal policy of Britain in its Indian colony. This first Indian reprint of the book 40 years later is timely. It is not only reminiscent of the sad tale of British economic exploitation of India but it also pinpoints and explains the new trends of neo-colonialism today which seem to improve upon the old devices by more sophisticated techniques in international trade. "Tariff walls", "dumping goods in foreign markets", "heavy foreign debts" are precisely some of the tools used in the new and emerging colonial system. It may be that mankind's repudiation of the direct use of force as a means of colonisation is driving the colonial movement underground and intellectualising its techniques. But Viet Nam, West Asia and recently Czechoslovakia raise doubts whether the hydra-headed monster in its original incarnation can ever be interred permanently.

A Financial Tragedy

The Tragedy of the Indian Rupee by R.J. Venkateswaran. Published by Vora and Co., Publishers Pvt. Ltd. Pages 131. Price Rs 9.

Neethi Ravindran

THE political unrest, the state of lawlessness and violence in the country are sometimes said to be the end-results of a chain reaction set off by the depreciation of our currency.

In a language comprehensible to any intelligent reader the author analyses the causes of the fall in the value of the Indian Rupee over the past 15 years. Criticising the policies that have been adopted in regard to taxation, expenditure and foreign trade, he says, these only led to the country gaining the reputation of being the highest-taxed nation without, meanwhile, achieving the objectives she set out for her.

To the readers' relief, the book has very little technical jargon. It does give essential statistical data and with them the author paints a clear picture of the trends through the years of prices, expenditure and the fluctuations in trade. These

convincingly enough prove the points he wants emphasised.

A rise in prices means a fall in the value of the Rupee, and prices in India continue to rise. Inflation is compared to robbery where there is 'confiscation without compensation', and where the whole nation is the victim. To counteract this depreciation of the currency—a worldwide phenomenon—many countries have devalued their currencies. The author in his book looks back on a year of devaluation consequences in India and sees little but the failure of the step.

Defective planning has been the root cause of the instability of our currency. While agricultural and industrial produce has not gone up steadily, population has increased in geometric progression.

The author touches on various other causes of depreciation, which include the non-restraint of the Government regarding deficit financing although it was aware of its dangers. The expenditure of the Government has gone up by leaps and bounds, taxes have sky-rocketed, the agricultural policy has failed for lack of co-ordination between the Centre and the States. The economy, in almost all fields, has been subject to controls that only led to prices soaring again in the absence of simultaneous regulation of other policies of taxation and expenditure.

Future policies, the author emphasises, should include a drastic cut in Governmental expenditure, not only at the Centre, but in all the States, which have taken reckless overdrafts from the Reserve Bank.

Besides fiscal policies being overhauled, production has to be continuously and substantially increased, and this can only be done through incentives. India is a mixed economy and incentives are necessary to increase production and stabilise prices. Regarding consumption, the official policy has been to curb it, whereas consumption should be encouraged, particularly because 80 per cent of the population has a very low standard of living and cannot be asked to reduce their consumption.

These are no doubt the suggestions of an idealist, but the book succeeds in making the problem impinge on the consciousness of the readers.



TRENDS IN CZECHOSLOVAK ECONOMY

Earlier this year, marked changes were introduced in Czechoslovakia in economic management. Within the country there was, of course, a degree of disagreement about the "reforms" introduced by the new leadership. Much has happened in Czechoslovakia since then; but this article written in last April, gives a glimpse of some of the economic reforms.

ARTHIKEYA

CZECHOSLOVAKIA has maintained a high average rate of annual industrial growth (about 9 per cent) since 1949. Fixed assets have more than doubled amounting to over 1,000,000 million crowns. Between 1910 and 1938, when the country came under German occupation, the value of fixed assets increased by only 30 per cent, whereas in the last eight years, investments in industry were more than in the last 40 years.

Market Mechanism with
Socialist Essence • New
Principles Portend
Democratisation

This rapid growth, with the emphasis on quantity, had certain negative aspects. These were high production costs, poor quality of some products, accumulation of unsold, unused and sometimes unwanted stocks, etc. According to the well-known Czech economist, Prof. Ota Sik, the symptoms of economic imbalance first appeared in 1956-57. According to him, real wages dropped steeply in 1963, the only industrially advanced country where such a thing happened after the Second World War.

It was evident that the planning methods needed radical change. The political leadership was forced to pay heed to the advice of economists and finally new methods, known as new principles of planning and economic management, were accepted for implementation in 1966. The new principles stipulated a certain democratisation of the economic system. It laid emphasis on independence of all enterprises from State bodies and regulation of their work in conformity with economic forces, such as investments and returns, prices and profits, supply and demand, etc. In short, the directive-bound economy was sought to be transformed into a market economy without changing its socialist essence.

The success of the new economic reforms did, however, depend on initiative from below and also on free play of heterogeneous interests of enterprises, consumers, employees various social groups, etc. The old political system of guiding everything from a central point proved to be an obstacle in the way of economic development. Soon it was evident that economic democracy would not be possible without political democracy. This is what led to sweeping political changes which embraced the entire State apparatus as well as social and political organisations.

The new economic policy, which forms part of the Action Programme approved last April, aims at the consolidation of three decisive sec-

tors: investments, the foreign balance of payments and the home market.

The main question, however, is whether the political situation will make it possible to speed up and translate the new concept into reality. This can only be done by the extension of resources, a redivision of resources or through intensifying the process of the new system of planning and management. The extension of resources can fulfil its purpose only if a solution can be found for the imbalance of the home-

and foreign markets. It will not be possible to achieve this either by increasing the production of consumer goods or by the export of products of heavy industry in exchange of consumer goods.

There is also a second factor involved in the effective increase in production. Here, the main importance is attached to the consistent implementation and development of the new system of planning and management. In the first place, this means that it is necessary to ensure its full functioning by giving the various enterprises real independence, to free them from the constant direction of the higher bodies, to abolish a form of forced monopoly that has been in operation, and to create conditions for a free association of enterprises according to their own economic interests, and to eliminate the system of artificial protection which still exists in the Czechoslovak economy.

FOREIGN TRADE

A very important role has now been assigned to Czechoslovakia's foreign trade, not only in correcting the foreign balance of payments, but also in increasing the efficiency of domestic production. So far, the monopoly foreign trade corporations purchased goods from home producers at fixed prices, bearing no relation to the prices they would fetch abroad. The corporations should not make progressive adjustments in the purchase price unless these are approximated to what they

would fetch abroad. This will force producers to keep pace with world standards, both in quality and production costs. The economy will thus be able to react to latest technical advance in the world. The foreign trade enterprises and producers will have to live by their own work and not at the expense of the state budget.

This policy also entails a change in the structure of foreign trade. So far Czechoslovakia's trade with the socialist countries accounted for 73.3 per cent of the total turnover. Of this 36.3 per cent was with the USSR. Trade with non-socialist countries amounted to 26.7 per cent, of which the advanced industrial countries accounted for 17.9 per cent and the developing countries 8.8 per cent.

It is now realised that Czechoslovakia will not be able to modernise her economy with assistance from the socialist countries only, that is, within the framework of the Council of Mutual Economic Assistance (COMECON). This is especially true because all products of highest quality made in the COMECON countries go mainly to the Western market. The USSR is Czechoslovakia's main source of raw materials, but the trade is not always favourable in many items. For instance, Czechoslovakia is paying more for Soviet oil than, for example, Italy. Therefore, it will be in Czechoslovakia's interest to diversify foreign trade. It is also necessary to expand trade with the West, particularly to facilitate exchange of technological know-how, trade in licences and suitable form of credit and capital co-operation.

BALANCE OF PAYMENTS

The gradual opening of Czechoslovak economy to the world market is also aimed at creating conditions for convertibility of the Czechoslovak currency. At present Czechoslovakia has highly active balances in its trade with the socialist countries, especially with Poland and the USSR; it is exporting and has almost nothing to import. Further, Czechoslovakia has assets in long-term claims mainly in the developing countries (several thousands of millions of

crowns) in inconvertible currency. At the same time it owes short-term liabilities in countries with a freely convertible currency (payments on interests in free currencies total some 20 million crowns annually).

Czechoslovakia's new economic policy is, therefore, intended to seek a new orientation of relations within the COMECON. This relates in particular to the large assets worth several thousand million crowns, which it has at the International Bank of the Socialist countries in Moscow, for conversion into gold and use in other markets. Czechoslovakia is willing to accept foreign loans, especially from the West, as long as there are no strings attached to it. Czechoslovakia is also willing to allow Western participation in the promotion of certain industries in the country.

Assets in the developing countries will be utilised in stepping up imports, not only of raw materials, but also finished and semi-finished goods of their newly established

industries. The share of imported consumer goods in Czechoslovakia accounts for only 5 or 6 per cent and it is recognised that if this is raised up to 20 per cent, it would enrich consumer markets and at the same time affect diversification, competitiveness and variety in its own consumer goods industry. This augurs well for the developing countries which need more exports to get machinery for their industrialisation programme.

The new Czechoslovak leadership recognises the fact that the process through which the country is passing at present does not represent merely partial reforms, but fundamental changes in the functioning of the socialist economy. It is also realised that while deformations in such spheres of social life as arts and ideology can be rectified fairly quickly, deformations of the economy are usually of a long-term character and their elimination required an equally long time.

Revival Of Planning Forums

THE activities of Planning Forums have invited the attention of the students at large, the public and the Government. Their positive role and constructive contributions have been analysed and understood. They are of national significance when perused from the angles of national integration and economic planning.

The major functions, namely maintenance of a library, survey project visit and an exhibition, give the members a sense of participation in one of the biggest national endeavours. But the fear exists that if new activities do not come under the purview of the Forum, it may result in stagnation and deterioration. Plan information centres could be opened in high schools where members of the Planning Forum can give courses of lectures or lead discussion groups. This will promote Plan consciousness in the minds of young citizens.

Surveys made by the Forum sometimes surpass original case studies. The grants provided are insufficient to launch surveys on a

comprehensive scale. The processing and analysis of data with advanced methods of research are not open to Planning Forums because of lack of adequate funds. With free labour supply a large volume of information could be gathered and collated, only if the grant is sufficient. Experts should be invited to guide the members in the method and conduct of research. The efforts of the Forum should be co-ordinated with the local bodies and administrative machinery.

The Forum need not give much attention to social service which could be left to other associations. It should aim at collection and evaluation of information, in addition to propagation and social services.

Unless the value commitments are clear-cut, the Forum shall meet some day with a dead end. It is not removal but the revival of Planning Forum that is of utmost importance.

AUGUSTINE C.
THIRIYEGADASON

AN ASSAM HILL DISTRICT BEGINS INDUSTRIALISATION

The First Thermal Plant in Garo Hills

LIKE most other districts of Assam, Garo Hills never had a place in the industrial map of India. It is indeed a most unfortunate fact that a place which abounds in such valuable resources is one of the most backward areas of the country. The alien rulers of pre-Independent India, who were seemingly indifferent to the idea of rapid industrialisation of our country, neglected this region too. Under the British regime, Garo Hills had only a few roads and a few bridges connecting Tura, the district headquarters, with the plains. The interior areas of the district were mostly inaccessible to the people of the rest of the State. No geological or other survey of the district had been made prior to 1947.

Garo Hills seems to have turned the corner in the last few years and is beginning to see better days. It is going to have at Nangwalbibra, 154 kms from Tura, its first thermal station which promises to be the precursor of industrialisation in the district. Surveys have already revealed the existence of large deposits of coal, limestone and clays. The district has one of the biggest reserves of Sal timber useful for making plywood and grows superior variety of cotton. With such natural resources and with the new thermal station coming up, it will not be an idle guess to make that the Garo Hills District, which was till recently neglected, will take a significant step towards development.

Nangwalbibra, where the thermal station is to be set up, is a place 2,000 ft. above sea level at the confluence of two rivers, Nangwal and Someswari, which fact has given the place its name (Bibra is a Garo word meaning confluence). It is connected by a fair weather road to Tura.

The 5 M.V. Thermal Station to be run by coal will have two 2.5 MW steam turbo alternators. This Thermal Station will consume coal available in the Darranggiri coal mine where the State Mineral Development Corporation has started mining. The coal is found specially suitable for feeding a thermal station.

The Geological Survey of India reported that Darranggiri has a reserve of 1.25 million tonnes of coal. The Directorate of Geology and Mining, Assam also carried out detailed drilling during 1964-65 and 1965-66 in that area and estimated the reserve of coal at about three million tons.

The coal-bearing rocks of the Darranggiri coal field are of the Eocene age.

The Geological Survey of India which conducted a survey in 1956-59 found that the main seam has an average thickness of 6 ft. and dip of about 30 to the south. South of the Someswari River the seam climbs down the top of the scarp at a height of 630 ft. and reaches the bed of the tributary of Ronju at a distance of 5,000 ft.

The average output from the mine will be 75 tonnes a day in a year of 280 days. The entire quantity will be supplied to the Nangwalbibra Thermal Project.

Limestone is found along the entire length of the Garo Hills from Pendengru on the east to Damalgiri on the west. White clays are known to occur in as many as ten places in the district. There are well-exposed sections near Tura, Darranggiri and Damalgiri along the southern slopes of the Tura range. It is heartening to note that the Associated Cement Company has projected to build a cement factory at Siju Artheca, where coal

and limestone occur together, carrying the finished product over an aerial ropeway to the nearest road head at Thana Janijal.

The forest wealth of the district is also no less abundant. Sal is the principal timber that grows in the forest reserves. The district is the second biggest producer of Sal in the State. Sawn timber of Sal, mostly in the form of sleepers, is supplied at Pandu to the Eastern Group sleeper control. Apart from Sal, Gurgra and Haldu, which are used in making plywood, are also found here. The Thermal Station will help in the establishment of plywood factories.

Garo Hills also produces cotton of superior quality. The climate and geographical condition of the area are specially suitable for the production of cotton. Cotton mills have become a possibility with the availability of thermal power.

The state-owned Bharat Electronics Factory, Bangalore, exceeded its production target last year by nearly 33 per cent over the previous year. It also saved foreign exchange worth about Rs. 11 crore by use of indigenous products.

The Union Ministry of Irrigation and Power has sanctioned two loans amounting to Rs. 2.77 crore to the Government of Bihar for financing the Gandak and Kosi projects.

India exported Processed Foods worth Rs. 414.26 lakh during January-July 1968 as against Rs. 578 lakh in the whole year 1967. The major items of export during the month were mango juice, instant coffee and coco-cola. U.S.S.R. was its chief customer.

A phased programme has to be worked out to consolidate the entire co-operative movement by making a multi-pronged attack on the disruptive forces plaguing the movement.

MANAGEMENT CADRE FOR CO-OPERATIVES

K.K. TAIMNI

It augurs well for the Co-operative Movement that the Chief Ministers decided in their recent Conference held in Madras that "the State or the federal organisations should endeavour to build up a common cadre of personnel for manning key posts in the four sectors of the co-operative movement, namely co-operative short-and medium-term banking, land development banks, marketing and consumer co-operatives". Wisdom, it is hoped, has now dawned after all on the powers that be, for the same proposal was turned down by the Planning Commission a few years back on the plea that the federal organisations were business bodies and are not meant for the maintenance of management cadres.

The rapidity with which the Co-operative Movement has quantitatively expanded and diversified in recent years, mostly on state initiative, could not be matched with the managerial resources available to the movement and consequently it failed to make the desired impact on the community. Consolidation of the entire system has therefore become

long overdue. That the Chief Ministers' decision almost synchronises with the launching of the Fourth Plan also provides an opportunity to the Government to map out a phased programme for the consolidation of the entire Movement, by making a multi-pronged attack on the various disruptive factors plaguing the Movement.

It is just as well that the Conference also took some positive decisions to curb the growth of social and political vested interest within the Co-operative Movement, for it is this vested interest which was and remains the most formidable obstacle in ushering the managerial revolution in the Movement. Professional management, once sure of its own security, can reduce the power of elected directors and the scope of their patronage to a particular class of individuals or section of community on grounds of political affiliations or caste and communal considerations.

The reasons for the emergence of this vested interest are both historical and socio-political and its liquidation is the *sine-qua-non* for the achievement of the objectives, for which the management cadres are being created. It therefore becomes necessary to trace out its background.

Since in most parts of the country the pioneering work of organising and registration of co-operatives was done by Government officials, the initiative remained with them to build up local leadership, which was eventually to manage these co-operatives. In their quest of local leadership, the traditional leaders as against the natural leaders came in handy and thus developed over the years the now notorious vested interest.

The traditional leadership by definition comes from the economically dominant minority and *ipso-facto* enjoys a higher social and political status in the community. The reasons for its preference by Government officials, who either themselves belonged to this minority or were under pressure from their political bosses to do so, therefore, are apparent. The traditional leaders, on their part, saw in the Movement a convenient way of coming to the fore-front of society and an opportunity to provide patronage to their favourites. It is again this traditional leadership, which has been over-emphasising the social and ideological aspects of the Movement, and barred the way for the development of professional management, for it saw in the professional manager a potential threat to the continuance of its own stratagem. The professional management would have, in all probability, run these co-operatives as business organisations for the weal of the whole community and not for a selected few or a section of the community.

FUNCTIONS OF BOARD OF DIRECTORS

To ensure the success of the managerial cadres, it becomes extremely important to delineate the functions of the elected Boards of Directors and the paid executives.

The functions of the Board of Directors can be summed up as follows :

i) To set broad guidelines before the management for its general working. It should set goals which must be clear and utterly explicit and then it should be unremittingly firm in what it asks from the management.

ii) To intervene should the management becomes incompetent, corrupt or abuses powers conferred upon it.

Means to Oust

Vested Interest

from the

Movement



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davp 68/259

iii) To rectify major decisions of financial character and periodically review the progress of the organisation.

iv) To initiate the formulation of a long-term plan for the expansion and growth of the organisation. Such expansion may be in given or related fields and within the framework of the plan, and should be then considered prime goal of the organisation.

Assuming the authority which is consistent with the outlines detailed above, professional management should be given complete freedom in the day-to-day working by the Board. This freedom also extends to the right to make mistakes; for error will often be the price, and a small one at that, for timeliness. Though the Board should be wholly tolerant of errors that are within the framework of success, it is by no means meant that it should also tolerate failure to achieve the specified goals. Indeed, the non-achievement of goals, and not individual mistakes, is the meaning of failure. Freedom here does not mean non-accountability to Board. On the contrary it means more, but it is accountability not for method, procedure, or individual action but for results in the broader sense.

It is not yet known as to who will be included in this cadre. If the cadre is to be created from among the State Government employees, the entire purpose for creating such a cadre might be defeated. Apart from their inexperience in general business and lack of genuine aptitude, these officers can hardly identify themselves with the organisations they will be serving. Modern management is essentially an evolutionary process and cannot be imbibed in a short period. Fredric Taylor once said 'management is like a shrub, which is to be planted, cultivated, fertilised and at times pruned and is not something like a room-heater, which can be purchased from the market and placed in the office for use.' The Union Government also has realised rather belatedly that one of the causes of administrative dislocation in the public sector is the tendency among civil servants in managerial posts to wangle transfers back to their parent departments as and when they wish. All these aspects cannot be lightly ignored.

STATE BUREAUCRACY

On the other hand, the creation of a cadre from among open market candidates would confront an equally formidable vested interest, that is, the State bureaucracy. The biggest beneficiary of the expansion of the Co-operative Movement, next to a certain class of individuals, has been the state bureaucracy. The expansion of the movement has not only been instrumental in providing additional jobs where State Government officers can go on deputation and enjoy additional benefits, but has also resulted in equal opportu-

nities of promotion to juniors to fill up vacancies created in the State Government Departments by these deputationists.

Any intrusion or attempt, howsoever well meaning, to dislodge this arrangement would be stoutly resisted by these two types of vested interests and the success of the cadres to very large measures would depend upon the earnestness with which the Chief Ministers eradicate the former and tame the latter. Both, however, seem to possess highly developed instincts of self-survival.

Development Diary

● The Thermal Power Station at Panki near Kanpur has been commissioned. Set up with Yugoslav collaboration at a cost of Rs 11.80 crore the station has been designed to produce 300 M.V. of electricity. Its present capacity is 64 MW.

● Construction work on the Rs 12-crore multipurpose Subarna Rekha Project in Bihar has started. The Project will have two hydel power plants with a total generating capacity of 130 MW, which will be linked with the Patratu Power station on the one hand and the Tenughat Project on the other.

● The first 70-tonne diesel-powered steamer, built in Assam, has been commissioned. The vessel which marks the modernisation of ferry services in the State and will accommodate 600 passengers and eight cars has been built at a cost of Rs 6 lakh.

● The Shipping Corporation of India has established a direct shipping link between India and Indonesia.

● The world's highest service track linking Upshi and Sarchu in Jammu-Kashmir, has been completed by the Border Roads Organisation. The road has an average altitude of 14,000 ft. It extends over 190 kms and is a part of the Leh-Manali Road.

● The Barauni Refinery despatched over 1,51,000 tonnes of Petroleum products in August.

● The Kirloskar Oil Engines Ltd. have opened a branch in Australia.

● The National Dairy Research Institute, Karnal, has developed a new technique of freeze-dry starter cultures

for use in the preparation of milk products. These are easy to handle, store and transport.

● The U.P. Agricultural University at Nauni has developed a new dwarf variety of hybrid maize. Highly resistant to water-logging and responsive to high doses of nitrogen the new variety has given a yield of 50 quintals per hectare.

● Himachal Pradesh has put nearly 85,000 acres of land under orchards, out of which 50,000 acres are under apples.

● The Central Government has sanctioned Rs 1.28 crore more as loan to the Government of Rajasthan for financing the Rajasthan Canal Project. This brings the total amount of Central assistance to this project since 1957-58 to Rs 56.6 crore.

● The National Textile Corporation, which will help the textile industry to become healthy and competitive, has been inaugurated in New Delhi.

● More than a hundred Indian firms are displaying their products, including machines, precision and electrical equipment, at the Zagreb Fair in Yugoslavia.

● The Central Government's intensive campaign for the development of small-scale industries has now been extended to Assam, Gujarat and Pondicherry, besides Andhra Pradesh, Jammu & Kashmir, Kerala, Rajasthan and Orissa. The campaign has enlisted, so far, nearly 5,000 entrepreneurs for starting new small-scale industries. More than 900 entrepreneurs have already placed orders for machinery.

ISLAM AND FAMILY PLANNING HAVE IDENTICAL AIMS IN HUMAN WELFARE

M. ISLAM

THE KORAN AND THE RELIGIOUS FATWAS HAVE NOTHING AGAINST FAMILY PLANNING. THE GRAND MUFTIS OF EGYPT AND JORDAN AND MANY MUSLIM COUNTRIES HAVE SUPPORTED FAMILY PLANNING.

FAMILY planning essentially is a welfare activity; its purpose is to ensure a good and happy life to every individual—an aim to which every religion subscribes. No religion or philosophy would truly advocate bringing forth children in the world if the parents cannot bear the responsibility of rearing them up properly.

Family Planning Programme does not lay down that there should be no children at all; it only says that children should be spaced out and the number should be according to the parents' capacity to look after them. The Government's thinking on this matter is two or three children per family. There are various methods of family planning from which fertile couples can make their choice to restrict the number of their children.

Islam is a social religion, a religion of life; its principles are progressive and humanistic. It conforms to reason. Islam appeared on earth to establish peace and welfare for mankind. One of its principal functions is to solve the problems of humanity, not to add to them. Family Planning also aims at bringing happiness and peace to the family in particular and to the nation as a whole. Thus in a broad sense Islamic religion and Family Planning have identical aims so far as the welfare of human beings is concerned.

CONDUCTIVE TO HEALTH

Family planning itself includes

Mr Islam is Field Publicity Officer at Raipur.

observance of self-control. In fact it attaches the highest value to the exercise of human will and determination to observe normal and natural restraints and to regard reproduction of human life as a noble, responsible and highly spiritual function. Family planners are, however, realistic to advise married couples to adopt certain aids and appliances to regulate the birth of children, like using of medicine, and help people live longer and in good health. Besides, family planning ennoble sex and conforms sex life to the norms of religion; it never abets indulgence in illicit sexual intercourse but advocates a saner, a practical and a realistic outlook, keeping its objectives at the highest ethical and moral pitch. There are certain habitual grumblers in every community who see in any rational approach a peril to morals and to the fabric of family life.

Pakistan, Malaysia, Indonesia, UAR, Turkey and other Middle East countries have accepted family planning as part of their national policy and family planning work there is fast progressing.

Some orthodox Muslims still consider birth control practices sinful. This matter has been examined by the High Court of the Directorate of Religious Affairs (Cairo); their verdict is as follows:

"Although 'Azi' (*Coitus interruptus*), which can be defined as a method of contraception, has been found undesirable by some Islamic scholars, other scholars and their followers have considered it per-

missible. Though normally it is necessary to have a woman's consent for contraception in such cases as the child's environment being unsuitable, a state of war or military mobilisation or other reasons of this nature, even this consent may not be necessary."

The Fatwa Committee of Al-Azhar University (Cairo) has stated that: "The use of medicine to prevent pregnancy temporarily is not forbidden by religion, specially if repeated pregnancies weaken the woman due to insufficient intervals for her to rest and regain her health."

The jurists also state that it is permissible to take medicine for abortion so long as the embryo is still unformed in the human shape. The period of this unformed state is given as 120 days. They think that during this period the embryo or the foetus is not a human being. A report says that Hazrat Osman, the second Caliph, did not regard abortion as infanticide unless the foetus is already past the limit. Malik, the founder of the Maliki School of Islamic thought, also approved *coitus interruptus*. After consulting the *Quran* and *Hadith*, the Mufti of Jordan concludes that there is agreement among the founders of the four schools of thought that *coitus interruptus* is allowed as a means of contraception. Religious savants inferred from it that contraceptives might be used, and even medicine might be used for abortion.

PERMITTED BY KORAN

The Koran says: "Allah desireth for your ease; He desireth not hardship for you" (2/185) and "Allah demandeth that you ask for children who would make you happy and content" (25/45). A tradition goes, "Marry the affectionate prolific woman, for I shall be proud of you among the nations." Hazrat Mohammad says, "Procreate and multiply that I shall be proud of the Corpus Islamic." In these instances the emphasis is not on the size but on the quality of the Islamic corpus that is worthy of being proud.

The use of medicine to prevent pregnancies absolutely and permanently is forbidden in Islam. But on the basis of a Koranic principle that "Necessities eliminate the undesirables", even abortion may be permissible.

The Koran further says, "Let those who do not find a match live in continence until God makes them free from want of his bounty." A tradition goes—"Oh! young men,

whoever of you is capable financially, let him marry, and whoever is not capable let him fast, for fasting is preventive." From the foregoing verse and the tradition, the definite inference is that restriction of procreation is allowed because to stop procreation altogether is more serious than to limit it.

GRAND MUFTIS' FATWAS

The Grand Mufti of Jordan gave in 1964 his judgement in favour of family planning. He stated that Muslims used to practice *coitus interruptus* during the lifetime of the prophet; the prophet knew of it but did not prohibit it. The Mufti also held that two Hadiths of Mohammad have definitely permitted the practice of *coitus interruptus* which is one of the ways of contraception.

POPULAR SUPPORT

We all know how time has silenced and ostracised orthodox

objection to several efforts at restoring social life to healthy and rational ways, like abolition of *sati*, promotion of monogamy, statutory provision of equal social and legal rights to women and under-privileged classes and equality of opportunity for education and employment.

Time is now on the side of the family planner; the tide of public opinion also is favourable. Family planning is sure to spread further and acquire universal acceptance as a way of life.

The Grand Mufti of Egypt has issued a Fatwa in favour of the loop saying that the use of this device is not against the tenets of Islam. He has also supported the Family Planning Programme as a whole. This information was given by two visiting doctors of the UAR who came to India in September 1966. The visiting doctors were Dr. A. R. Mahmud from the Department of Preventive Medicine (Cairo University) and Dr. M. H. Wahdan of the Faculty of Medicine (Alexandria University).

Steps for Implementing Administrative Reforms

S. C. SETH

THE need for changing the existing administrative apparatus develops out of the need to recast the methods and reinforce the skills of the administration in order to realise its changing goals. Administrative reform is a continuing process. But sometimes a total overhaul is needed specially to bring out the degree of sophistication and quality in man that would make an administration work in harmony with the new demands that a society makes on it.

There are certain accepted methods of implementing change in administration. One scheme of reform, would be that in which there is a concentration for change in a single department or a single work-practice. Here one could bring about a significant change but on a small scale. The other method is to change the overall structure, so that in one stroke one may give to an administration a totally new look.

In both the methods described above it is desirable that the work of suggesting administrative reforms should be entrusted to an outside agency which can look back at the governmental processes with a certain degree of detachment and objectivity. This agency could be a completely expert body or it could be a quasi-political agency which can receive the necessary expert advice as and when it needs to receive it. The attempts at reform in public administration in India have followed both these techniques and with reasonable success.

The success of reform is very much dependent on certain basic prerequisites.

Dr Seth is Editor, "Indian Administration and Management Review", New Delhi.

It is essential that the political leadership of a country which desires to overhaul its administrative machinery should have full faith in the need for bringing about such reforms. This helps in getting the necessary legislative measures passed without delay.

In any modern administration the bulk of the decision-making powers rest with the top echelon of technical and administrative hierarchies. It is, therefore, necessary that the senior civil servants, who act as the heads of departments, as well as the advisers to the political bosses, ought to have an implicit faith in the process of carrying out reform. This would minimise surprise rejection of meaningful suggestions of reform.

Political commitment and adequate support from senior officials to the reform are not enough. The rank and file should have an attitude of excitement and faith in the changes. If down the line our officers and other technical and non-technical workers lack enthusiasm towards the changes, the net result would not be very encouraging indeed. Along with the machine and the method, the man has also to change.

The strategy by which the thinking on reform has to be developed is also very important for the ultimate success of the implementation of the reform measures. Here the most essential single step is to establish several points of contact between the reforms-body and the various departments and agencies, for whom the reform is being considered.

Resistance is inevitable in all exercises which are intended primarily to bring about change. Consequently, it will have to be realised that no reform in administrative methods or machine would be accepted in

any organisation without its offering resistance.

There is always a strong body of men in every organisation which says: "Let us not disturb a running machine which has served us well. What is the guarantee that the changed system would be better than the system with which we are working presently?" The reformers will have to prove how the new methods would be economical, how they will help in bringing about a speedy transaction of work, and in doing so, how they will result in a more judicious use of man-hour and manpower in an agency.

The biggest hurdle however comes from those whose conditions of service or whose area of authority and privileges in the existing set-up are likely to be disturbed by the process of reform. If it so happens that the vested interests and the decision-makers are the same then all efforts to introduce reform would become more a matter of chance than reality. The help of political leadership that is committed to modernism ought to be taken to offset the opposition of the vested interest groups of officials and vice versa.

One of the major steps that ought to be taken is to build up large-scale publicity of the various proposals of administrative reform. This will enable the political leadership of the country and also the enlightened public opinion in the society to be roused to a tempo where a meaningful nationwide intellectual debate over the desirability or feasibility of administrative reform can become possible.

All the different modes of publicity like discussion groups, seminars and lectures and publication of brochures, monographs, hand-outs and write-ups will have to be tackled.

All the Members of Parliament and the Members of the State Legislatures will have to be kept continuously in touch with the major deliberations on the recommendations on reform.

Also journalists and heads of professional organisations, the vice-chancellors of universities and heads of leading business and commercial houses should also be actively associated with the public movement for administrative reform.

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Thus an intellectually informed dialogue can be set in motion between the people, their leaders and the public administrator. In order to get the administrative reform recommendations of the Hoover Commission of the United States of America implemented quickly and completely, a Citizen's Committee was set up to assist in this matter. We can also take some similar steps, in India, on the national, State and the local levels.

Amongst the administrative measures that have to be taken for implementation of the reforms is the creation of a Central Agency who should be asked to oversee and supervise the quick implementation. This agency should establish direct lines of communication with all the departments, or such administrative ministries and other agencies, under whose jurisdiction a particular reform recommendation has to be implemented. Special units should be set up within each department/ministry, who should constitute the internal focal point of implementation.

It is very likely that now and then there can be a difference of opinion. Such difference of opinion should first be ironed out in the Committee of Secretaries. But the decision of the Committee of Secretaries should only be of an advisory nature. It should not be mandatory in character.

The final decision in all events ought to be taken at the Cabinet level. It should be left to the top leaders to decide whether or not a particular piece of reform ought to be accepted.

A quick and speedy introduction of training programme is also necessary so that new measures of reform may not sound alien to the officers whose lot it would be to actually work out the reform procedures, methods and systems.

It has been the experience of various reform makers that people who have actually to work things down the line, for want of insufficient knowledge, understanding and experience and also for want of sufficient technical exposure to the new ideas, fail to make full use of the reform measures. In fact, many a time they are at sea and get completely demoralised because they have no understanding of the new

system. For example, if the budgeting system has to be recast on the lines of performance budgeting, then it would be necessary for each ministry and department, agency, board, commission and attached and subordinate offices to have persons on the budget desk trained and qualified in the new system.

In order to successfully implement all reform measures a continuous evaluation and follow-up are necessary. The evaluation and follow-up programme will have to measure the following factors in particular:

(i) The response of the employees to the new system. (ii) The economy or lack of it as created due to the new system in terms of cost, time, manpower, paper work, morale and public response. (iii) Impact on the organisation as a whole in terms of organisation targets and its general functioning.

CENTRAL AID TO STATES

N.D.C Committee's Decisions

THE Committee of the National Development Council has decided that weightage should be given to population in the distribution of Central assistance to States in the Fourth Plan to the extent of 60 per cent of the total. Ten per cent of Central assistance would be distributed to the six States having per capita income below the average all-India per capita income. These States are Bihar, Kerala, Madhya Pradesh, Orissa, Rajasthan and Uttar Pradesh.

The other criteria for distribution of Central assistance for the Fourth Plan, to which 10 per cent weightage will be given, are (i) per capita average tax effort for three years in relation to the per capita income, (ii) continuing major irrigation and power schemes, and (iii) special problems peculiar to individual States.

These decisions were taken on

And this evaluation will help in making further readjustments in order to achieve near perfect situation.

It is very essential that a central agency, as stipulated above, ought to perform continuous vigilance over the adequacy or inadequacy of the reforms undertaken.

The process of administrative reform has to be a continuous process. Introduction of one measure or of a single administrative activity would not automatically help in bringing about a total change in the functioning of the administrative machine, or in the attitude of the people who have to work with the reformed machine. A single act of reform is a step in the total and overall process of change which will have to be continuously watched and sustained.

the basis of the criteria evolved at the last meeting of the N.D.C. Committee held in July 1968.

The meeting was attended by Chief Ministers of Andhra Pradesh, Maharashtra, Mysore, Orissa, Kerala, Madhya Pradesh, Haryana and Rajasthan and Governors of Bihar, Punjab, Uttar Pradesh and West Bengal, Finance Ministers, Planning, Revenue and Co-operation Ministers of Assam, Madras and Jammu & Kashmir and Chief Secretary, Gujarat. The Central Government was represented by the Ministers of Food, Agriculture, Community Development and Co-operation; Industrial Development & Company Affairs; Transport and Shipping; Labour, Employment & Rehabilitation; Railways; Commerce; Health & Family Planning; Works, Housing & Supply; Irrigation & Power; and Social Welfare; and Governor of Reserve Bank of India, Vice Chairman, IDBI and Chairman IFC and senior officers of Planning Commission and Union Ministries.

The Committee decided to meet again to discuss the question of classification of schemes as centrally sponsored in the Fourth Five Year Plan and the correction of regional imbalances that have been generated in the process of development.

A PLANNING FORUM SURVEY

A Forward-Looking Punjab Village

CAN there be a village in India where more than half the people are literate, where the land is almost equitably distributed, where the farmers own seven tractors, eight electric motors and where gifts of high-yielding seeds are highly cherished? Yes, the village Sherwani Kot in Sangrur district has all these and more.

The Planning Forum of the Government College, Malerkotla, undertook a socio-economic survey of the village. Two miles from Malerkotla on Raikot Road, Sherwani Kot has a population of about 1,100 people covering 150 households—100 of them Jat Sikhs, 35 Ramdasias Scheduled Castes and 15 Mohammedans. Half the number of these households were selected for the purpose of study.

Over the last 16 years (1951 to 1967), the population of the village has nearly doubled, resulting in increased pressure on land. This is mainly due to the unusual increase in the rate of population growth (3.7 per cent) in the village. No household among those surveyed was making any use of family planning measures although there was an increasing awareness of the need for it.

The percentage of literacy rose remarkably over the same period. While it was only 21.6 per cent in 1951, it was 58 last year. This was mainly due to the opening of a primary school in the village, a high school and a college in the nearby Malerkotla and due to the incentives offered to the scheduled castes. However, the tendency was to have only general education. Desire for technical or agricultural education was conspicuously absent.

Joint family system was disintegrating among the literate families. Literacy among women had increased considerably. The occupational pattern of the village clearly revealed the impact of the increase in literacy. Though more than half the households still depend on agri-

MORE THAN HALF THE POPULATION LITERATE

culture, directly or indirectly, increased migration from agriculture to other occupations was evident. Traditional cattle grazing was fast declining. The dairy farmers have become conscious of the benefits of scientific dairy farming. Agricultural labourers who form 10 per cent of the households supplement their incomes in the off season by work in construction. Nearly 10 per cent of the households (all Ramdasias) carry on traditional shoe-making to meet local needs. Some of them have even taken training in an extension centre. Nearly 20 per cent of the households derive their incomes from the services, military and civil.

Families with small land holdings but with one or more members in service were having an annual saving of Rs. 1,000 on the average. Farmers with less than five acres of land were under debt ranging from Rs. 500 to 1,000 a year.

Cultivation had been extended to every bit of cultivable land. Irrigation water was ensured through various sources. Nearly half of the cultivated land was double cropped and the area sown more than once was increasing.

The ownership of land in the village was fairly equitably distributed. The average size of cultivated land holdings was only 1.59 acres. Over the last ten years, there had not been further subdivision and fragmentation. This is evident from the fact that while the number of owners increased from 403 to 691 in the period 1957-58 to 1967-68, the number of land holdings rose only from 315 to 339. Renting of land was on the decline.

There was a distinct change in the cropping pattern of the village: the number of crops grown had

decreased to three or four. The chief crops grown were wheat, fodder, cotton, spices, maize and oilseeds.

Use of chemical manures and latest varieties of seed, especially wheat, was on the increase. The village had seven tractors, two tube wells, eight private electric motors and seven diesel engines. Gifts of the latest hybrid and other varieties were highly cherished. Many of them even desired to attend agricultural courses at the Ludhiana Agricultural University. However, insecticides or pesticides were not much used in this village in spite of the large incidence of damage to crops from insects and pests.

There were two co-operative societies in the village: the Sherwani Kot Co-operative Agriculture Service Society and the Ramdasias Co-operative Credit Society, in working of which members took keen interest. In both the co-operative societies, loans were paid back regularly and there were generally no overdues.

Out of the 75 households surveyed, 23 had radio transistor sets. Cemented houses constituted, next to land, the most important prestige symbol.



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BIG DEEDS HUMBLE MEN

*In this feature
Yojana seeks to present
the outstanding achieve-
ments of some of the
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FLOODS DON'T DETER THIS FARMER

IR-8 paddy seems to be one of the favourite high-yielding seeds of farmers in Kerala and Orissa.

K. S. Narayanan Nampoothiripad of Kodannur in Kerala's Trichur district has secured a record production of 4,000 kgs. per acre by using IR-8. His 23 years of farming experience and careful reading of the latest publications on farming have gained for him a deep knowledge of improved agricultural practices. To him come other farmers of his village for advice on their agricultural problems.

Nampoothiripad owns 45 acres of paddy land. His fields lie at a low level and are frequently affected by floods. Therefore he was not able to take more than one crop in the beginning. But for the last three years, by selecting suitable seeds, he is taking two crops a year. Nampoothiripad is now experimenting with different seeds which are capable of withstanding floods. He has tried Manila-337 in 2½ acres, which has shown its capacity to withstand the recent floods. The farmer now feels he can take three crops a year by using this seed.

Gangadhar Maharathi, Sarpanch of Anakhia Panchayat in Orissa, grew IR-8 paddy and got a yield of 187 maunds of paddy per acre in the current rabi season.

Duryodhan Panda of village

Garam in Balikuda Block I of Cuttack grew IR-8 and raised 168 maunds per acre in the last rabi season. Many others followed suit and got yields of more than 100 maunds per acre.

Sevatilatika Devi, a woman farmer belonging to village Nilambarpur in Barchana Block, has got a yield of 120 maunds an acre by growing Taichung Native-1 in the last rabi season.

"My production is one and a half times the best production my father ever got", said G. Palanivelu (32) of Perumal Naikan Palayam in Cuddalore district of Madras State. He owns a five-acre farm on which he has built a small farm house to watch the growth of the crops. He has adopted the high-yielding varieties of paddy and has followed the Japanese method of paddy cultivation, changing the direction of planting seedlings with every crop. Inadequacy of green manure is compensated by growing suspania which protects the field from the heat and cattle. Now he relies mostly on C 025 which has yielded him 3,385 kgs. per acre.

OBSERVATION AND APPLICATION

Kanjibhai Khimabhai Rokad (62) of Amreli has shown how keen observation and faithful application can be rewarding to a farmer. Rokad lives on the outskirts of an Agricultural Research Farm. He used to watch the improved methods of agriculture adopted in the farm. Then he would try them zealously on his farm with the high-yielding NP-824 seeds. The result: he stood first in the district level Wheat Competition and won the prize of Rs. 500. His yield came to 2,660 kgs. per acre, which is more than four times the average yield of 617 kgs. in the district.

REVOLUTIONARY VILLAGE

AMRIT Nagar, formerly known as Karbe Kala, is a small village in Hazaribagh district with a population of 1,200, but of late it has earned the epithet 'revolutionary'. Led by B.N. Mishra, the villagers have consolidated all their holdings

into a farm of 375 acres. This they have divided into plots of one acre each. Each plot is approachable by a 10-foot-wide road. The 115 cultivators have set up a committee of 10 members to look after the welfare of the community.

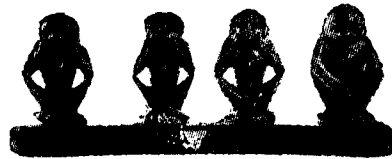
Conditions were entirely different only a year ago. It was difficult to take a pair of bullocks and a plough to several of the small farms without crossing through another man's farm. The holdings, in fact, were so small that the bullocks yoked to a plough could not even turn in a plot without trespassing into somebody else's field. The yields were scanty. Although no irrigation facilities, except wells, are available to them, the farmers hope to double their yield this year.

SEEDS FOR FELLOWMEN

Ismail Khan, one of three brothers who own 32 bighas of land at Siwana village in Alwar district of Rajasthan, was engaged till 1962 in unproductive occupations and found that he was sinking deeper and deeper in debt. The Chinese aggression of that year jolted him into realising the need for engaging in productive occupations which will help the nation and he thought that if he were to join his brothers in tilling their land, he could earn his living. Help and guidance from the Kishan-garh Panchayat Samiti was readily available. The soil responded to the care and labour of the brothers and Ismail Khan felt himself rewarded for his enthusiasm.

In October 1967, Ismail Khan was selected to attend a training camp on Mexican Wheat cultivation. Returning from the camp, fired with new hope, Ismail Khan sowed the Sonora-64 variety in a 1.5 acre plot. Carefully following all the instructions about tending the crop, he harvested 84 maunds of wheat per acre.

In his hour of success, Ismail Khan did not forget his fellow farmers. He distributed his produce among them to be used as seeds in exchange for the local varieties of cereals. "I do not want them to go to Mahajans to raise money for purchasing seeds", he said.



QUOTATION BOX

fully on to each other Chairman Mao's orders.

—*"The Peking People's Daily"*

An orgasm a day does not keep the doctor away; still less the psychiatrist.

—*Malcom Muggeridge*

Humphrey's Main Hope is Nixon
—*Heading In "The Sunday Times", London*

During this strange and mystifying election year, the United States has discovered one very important thing about itself. This is that the United States is not designed by nature for the role of world leadership thrust upon it in the aftermath of the second world war.

—*Stewart Alsop in "Newsweek"*

Indian communism is one long confrontation between alternative drafts which implies every draft must have an alternative draft.

—*"Shankar's Weekly"*

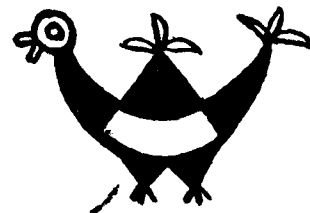
Some M.P.s have already asked for a pension after they cease to represent the people.

—*"Organiser", New Delhi*

A Senior Cabinet Minister remarked recently, "During Parliament sessions we are on the mat, and between the sessions we are in the air."

—*"Link"*

There is a challenge in the shape and texture of certain vegetables. I go into the super-market, and I can spot from a distance the vegetable that has personality. They



A petition writer, Mr Faqir Chand Gupta, who became the Revenue Minister (in the Gill Ministry of Punjab) has now applied to the Deputy Commissioner, Bhatinda, for a petition writer's licence.

—*A P.T.I. Report*

Gandhi's spirit has certainly been alive in the streets of Prague.

—*Pendennis in "The Observer Review", London*

The Czechoslovak people love the Soviet Army.

—*"Pravda"*

The management of a maternity hospital (in Czechoslovakia) pasted this poster on its wall: Twelve counter revolutionaries born here. Send thanks immediately.

—*From Editor's Notebook in "Commerce"*

Czechs and Balances

—*The heading of a book review in "The Economist", London*

I cannot remember the Lok Sabha to have discussed Cuba or Guatemala or the Dominican Republic or Vietnam with nearly as much passion (as Czechoslovakia). So far as India is concerned, the best way to help the Czechs may be not to try to help them.

—*From A Ditcher's Dairy in "Capital"*

If you are studying Chairman Mao's works under water you can run into all kinds of difficulties. The noise of the machinery inside the submarine is too loud and it is difficult to hear what people are saying. So the fighters invented various kinds of gestures to represent Chairman Mao's quotations and they were able to pass grate-

speak to me, and I can tell the one that will be a star.

—*Sheila Ostrander, a young Canadian sculptor who uses vegetables as her medium.*

How can individual incomes increase if the national income falls?

—*Mrs Indira Gandhi, Prime Minister, in her broadcast*

When a suggestion was made to him (Tunku Abdul Rahman) that he might fly by Air India on one of his trips abroad in which case our airline would be only too happy to treat him like a maharajah, the Tunku reportedly retorted: "As if I do not know how you treat your Maharajas!"

—*V.B. in "Eastern Economist"*

If Czech events go on for years, our vehemence will not be repeated.

—*N.G. Goray in "Blitz"*

So the end of the world is at hand, after all. The news from Paris, which emerged from a Unesco symposium, was that within decades our planet will be suffering from the effects of industrial revolution, that the atmosphere will become unbreathable, and life cease in our rivers and lakes.

—*"Guardian Weekly"*

He (David Lawrence, Editor of the *U.S. News and World Report*) began his weekly editorial by telling his millions of readers that philanthropy means "an act of service performed because of love for mankind." Without pausing to take a breath Lawrence went on: "What the United States is doing in Vietnam is the most significant example of philanthropy extended by one people to another that we have witnessed in our times."

—*Dyson Carter in "New Times"*