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### AGRICULTURAL POLICY AND RURAL ECONOMIC PROGRESS

By

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For more than twenty years the All-India Agricultural Economics Conference has brought together economists, agricultural specialists and administrators on a common platform to think through some of the most crucial problems of our economy. The labours of this Conference and of the Indian Society of Agricultural Economics have exerted growing influence on opinion and policy in the past and are of great moment in the present national emergency. It was in the fitness of things that Shri W. R. Natu was invited to preside over the twenty-second session of your Conference. Shri Natu had altogether exceptional qualifications for this task. Both as scholar and as public servant, he had rendered pioneer service to the cause of agricultural economics and, on this occasion, we cannot but miss his sensitive grasp of the problems of the rural economy, his gifts of analysis and comprehension and his deep knowledge of the structure and functioning of agricultural markets. It is in the sense of filling a breach and paying a humble tribute to a departed friend and colleague that I am with you today. The privilege which your Society has given me is one to which I am not equal and could not aspire. But, under the persuasion of respected friends, whose guidance through the years has meant much to me, I did not feel free to make my own choice. Therefore, though well aware of my own limitations and deeply conscious of the honour and the opportunity, I am venturing to submit to you some reflections on the familiar theme of agricultural policy in relation to rural economic progress.

#### I

For more than a decade, continuous efforts have been made to transform India's economy through a series of Five-Year Plans. The formulation of each Plan has brought up prominently issues concerning the place of the rural sector in the economic development of the country, its rate of growth and investment requirements and the relations between the rural and the non-rural sectors of the economy. Large changes have taken place in many directions, new institutions have been established and the rural environment today is different in many ways from that of ten or twelve years ago. Yet, a general impression remains that economic progress in rural areas has not been achieved in adequate measure, that partly in consequence of planned development the gap between levels of income and opportunity in rural and non-rural areas is widening, and that the agricultural economy has not been strengthened sufficiently to meet the demands of rapid industrial and economic development. At this juncture, when a crisis in our

affairs has forced us to re-examine our assumptions and practices, it would be useful to explore how far the common beliefs concerning the progress of the rural economy are borne out by the available evidence, whether the framework of policies and institutions on which the Five-Year Plans are based calls for fundamental changes in emphasis and direction and, finally, whether the instruments through which the various objectives are sought to be attained are adequate for the purpose. These questions, important as they are for an appraisal of the past, become even more significant in relation to the perspectives for the future.

In recent years, a vast amount of statistical, economic and other data regarding conditions in rural area has become available. One has only to recall the work of the Reserve Bank of India in the Rural Credit Survey and its series of follow-up surveys, statistical and other information presented by the Ministry of Food and Agriculture, the village surveys and resurveys carried out by the Agro-Economic Research Centres, the Farm Management studies, reports of the Programme Evaluation Organisation, and the wide range of monographs prepared under the auspices of the Research Programmes Committee, the universities, Boards of Economic Enquiry and other institutions, to realise the wealth of knowledge now available for gaining deeper understanding of the basic problems of our rural economy. Doubtless, there would still be many aspects on which answers might be difficult. Nevertheless, in the degree to which we formulate issues correctly, even if precise answers are not to be had immediately, means now exist for gaining greater insight and devising new policies on the basis of tested knowledge. However, to use these means to the best advantage, there is need for much closer interchange of experience and for a common frame of reference between those engaged in carrying out studies and surveys and the workers, both official and non-official, who are actively participating in the specific tasks of developing the rural economy.

In assessing the progress of a national economy, growth in national and per capita income, rates of growth in different sectors and the rates of investment and domestic savings are among the principal indicators. Statistical measures have considerable validity in the organised sector of an economy. In the unorganised sector and, more specially, in relation to the rural areas, such indicators are not always readily available. To the extent statistical data can be obtained, even apart from inherent limitations, they throw only partial light on the total process and degree of change that occurs over a period. Data which permit comparison with given bench marks exist at present only to a small extent. Moreover, many aspects of rural change are not sufficiently susceptible of measurement. Without, therefore, under-estimating the importance of statistical measures of economic progress in rural areas, one may legitimately suggest that for any just appraisal, it is essential to take a wider view of the changes through which the rural economy is passing under the impact of planned development and the economic, technical, social and administrative policies and measures associated with it.

## II

Before proceeding to this appraisal, certain broad magnitudes and trends may be briefly stated. These are not intended to be a summing up of the total picture, but may at least point to some of the problems. The rural sector accounts for about 70 per cent of the total net national output. Its pace of advance is,



therefore, the most dominant factor in the overall growth of the economy. The growth of population is throwing an increasingly heavy burden on the rural areas. According to the final population totals for the 1961 Census, during the decade 1951-61, as against an increase of 34 per cent in the total number of workers and of 35 per cent among non-agricultural workers, the addition in agriculture was of the order of 33 per cent. In terms of absolute figures, this has meant an increase in the number of agricultural workers from about 98 million to about 131 million, the proportion of agricultural workers to the total working force remaining at about 70 per cent.

This large increase in the pressure of population on land should have been balanced by corresponding increase in production in rural areas. Between 1950-51 and 1960-61, as against increase in national income of 42 per cent, the net output of agriculture, animal husbandry and ancillary activities rose by 33 per cent. It has been estimated that over the period 1950-51 to 1960-61 the average net output per worker increased by 21.5 per cent. Against this, the net output per worker in agriculture rose by about 15 per cent, while that outside agriculture increased by 25.5 per cent. Consequently, a small decline is observed in the proportion between the net output per agricultural worker and the net output per worker outside agriculture. At the same time, such statistical data as are available suggest that capital formation in rural areas has increased during the first two Plans at a much lower rate than outside the rural sector or in the economy as a whole.

Since agriculture accounts for most of the economic activity in the rural sector, the presumption is that in an economy which, as a whole, has been advancing only at a moderate pace, agriculture has tended to lag behind and, secondly, that with the growth of population, the gap between incomes in rural and urban areas may have actually widened. Over the period 1961-76, the total increase in population may be of the order of 187 million, the increase in the labour force being about 70 million. With this prospect of population growth, it becomes all the more imperative that there should be the most concentrated attack on the development of agriculture and the rural economy. It is from this aspect that we have to give thought to changes in policy and, what is not less important, to changes in the machinery and methods of practical implementation which are called for in the light of experience. The trends which have been cited suggest that the task of lifting the rural economy from the stagnation which characterised it in the past and of enabling it to function in a truly dynamic manner is much bigger and more difficult and will make larger demands on our resources and our institutions than might have been allowed for.

### III

As different policies and programmes embodied in the Five-Year Plans are executed, it is important to keep in mind the character of the rural problem as a whole and of the strategy which has been evolved for dealing with it. Prior to the First Plan, much study was devoted to the problem of uneconomic holdings and of rural indebtedness, and the need for agrarian reform was widely felt. In the Five-Year Plans, an attempt was made to approach the rural economy in an integrated manner. From a more or less static rural structure, which laboured under feudal tenures, the aim was to build up a progressive and rapidly growing economy

founded on peasant proprietorship and organised increasingly on co-operative lines. The main features of this approach may be briefly stated.

To secure the development of the rural economy, the entire machinery of district administration had to be strengthened and identified with the welfare of the people. This involved steps in three directions—firstly, provision of technical skills through a network of extension services; secondly, a co-ordinated approach to the village community and the problems of the peasant; and thirdly, building up institutions by means of which the people could largely undertake development through their own initiative and participation. These steps led to the emergence of Community Development and the National Extension Service and, in due course, to the establishment of democratic Panchayati Raj institutions at the district and Block levels in addition to the Panchayats in the villages.

The Plans have sought to raise the productivity of land, above all, through irrigation, supplemented to an increasing extent by programmes for soil conservation, extended use of fertilizers, development of local manurial resources and adoption of improved agricultural practices.

The Five-Year Plans visualise the rural economy being reorganised and developed basically along co-operative lines. The precise content of this co-operative approach has taken shape more slowly than had been hoped for. While large parts of what is broadly accepted in principle still remain to be carried out in practice, the objective clearly is that co-operation should become as speedily as possible the principal basis of organisation in many branches of economic life, notably in agriculture, small industry, processing, marketing, distribution, supplies, rural electrification, housing and construction, and the provision of essential amenities for local communities.

The scheme of land reform has been regarded from the beginning as being fundamental to development. Its main features have now been embodied in the legislation which has been enacted in the States. The primary aims were to eliminate intermediary tenures, establish security and reasonable rents for tenants, limit the size of agricultural holdings, progressively provide the rights of ownership to tenant-cultivators, and create conditions for the growth of a co-operative rural economy. In the earlier stages, it was also hoped that substantial areas of surplus lands would become available for distribution to the landless.

The fact that a sizable proportion of the rural population consists of landless or virtually landless agricultural labourers has been a source of anxiety in each of the Plans. In practice, the scheme of land reform has provided mainly for tenant cultivators. Even in its conception, it did not seek to provide to every agricultural labourer a piece of land, however small it might be, for the simple reason that such a step would have rendered peasant farming untenable and would have led to the breakdown of the agricultural economy. Measures for raising agricultural productivity could bring only gradual and limited benefits to agricultural labourers. The main hope of bringing agricultural workers on to a level of equality in status and opportunity with others in the village community, therefore, lay in the development of industry and in the diversification of the rural economy. This is one of the major compulsions for rural industrialisation, for closer integration

of the rural with the industrial economy, and for accelerated development both in regions which have favourable conditions for growth and in those with considerable rural unemployment and under-employment. It should be added that in the social field, through community development and other programmes, there has been already a certain impact on the life and conditions of rural labour.

Thus, in terms of policy, the Five-Year Plans provided the machinery for rural development and set out the economic and social goals to be achieved. They were weak in dealing with the problem of landless labour, but it was thought that with the growth of the economy as a whole, increase in the productivity of land, development of co-operation and changes in the agrarian structure, this problem might become more manageable. In reviewing economic progress in rural areas, particular attention should be given both to the strengthening of policy and objectives and to eliminating the gaps between policy and implementation which have tended to reduce the social and economic impact of planned development. Such a review should encompass changes in the rural environment which are under way, changes in the agrarian structure which need urgent thought, directions in which the process of building up a co-operative rural economy must be strengthened, measures required for speeding up technological change in agriculture and for raising the productivity of land, and policies designed to achieve intensive development in each area and closer integration between the rural and the industrial economy.

#### IV

In the building up of the rural economy, changes of an environmental and social character have a significance which is not fully described in statistical terms. There is an intimate and growing connection between economic, social and technical change. The emergence of an environment in many rural areas favourable to economic progress is a vital fact. In bringing about such an environment many factors are at work. The general development of the economy and expansion of industry and trade and of transport and power and increasing urbanisation would in any case exert a powerful and continuing influence on the rural environment. The main role of Community Development thus far has been to serve as an agent of change close to the rural population and as a link between national and local planning. The process of community organisation has not yet gone far enough to be able to tap sufficiently the local manpower and other resources of each area. Social research and improvements in organization and planning could help in reducing this shortcoming. The existence of institutions through which the people of each area can largely determine their own course of development should be a factor of increasing importance in the coming years and one capable of imparting richness and vitality to the process of growth at the grass-roots. Already, the development of an expanding network of communications has brought the town and the village nearer to one another. The Benchmark surveys undertaken by the Programme Evaluation Organisation have shown that in most cases there is increasing readiness to adopt improved agricultural practices. Thus, in the eighteen Blocks which were studied, between the first survey in 1953-54 and the second survey five years later, the percentage of households using improved seeds increased by 70, of those using improved implements by about 50, and of those making use of fertilizers by about 150. In many areas the limits to the acceptance of im-

proved practices are now set less by resistance on the part of farmers and far more by the ability of the extension services to make the necessary supplies and technical guidance promptly and readily available.

In the nature of things, changes in the rural environment are by no means evenly spread. They are more marked in areas in which new resources have come to be developed, be they by way of irrigation, or rural electrification or the growth of processing and other industries, or of new communications. However, these changes are being stimulated in all areas by the development of education, health and other social services. Although the re-planning of village sites and improvement of rural housing are necessarily long-term undertakings, it is interesting to observe that in several areas the proportion of brick-built houses is increasing fairly rapidly. Thus, in the Programme Evaluation Organisation's studies, in one area in the Punjab, the proportion rose from about 3 to 23 per cent, in another from 7 to 34 per cent. Increases, somewhat smaller in dimensions, are also reported from a number of other States and are borne out by several re-surveys of villages which have been undertaken in recent years. Changes in the rural environment, which are now proceeding under the influence of developments outside as well as within each local area have to be harnessed purposefully as a positive factor for accelerated economic development through the mobilisation of local manpower resources, specially for creating new community assets, improving living conditions for the weaker sections of the village community and expanding agricultural production.

## V

The scheme of land reform was evolved in detail over a period of several years after Independence. As its main features come to be accepted at the level of policy, legislation followed in the States, in the process responding to local pressures and permitting variations which were often better avoided. The piecemeal character of land reform legislation and its excessive reliance on the machinery of revenue administration, without adequate education of rural opinion and support by way of credit and supplies and programmes for resettlement on land, has unfortunately tended to diminish the impact of land reform on rural welfare and development. The main consideration at the present time is the need for early completion of the process which has been initiated and intensification of development in areas in which land reform entails substantial changes in the distribution of rights in land.

Land reform comprises four sets of measures—abolition of intermediary tenures, tenancy reform, ceilings on agricultural holdings and conferment of rights of ownership on tenant cultivators. Once accomplished, these measures are intended to pave the way for the growth of a co-operative rural economy. At Independence, intermediary tenures accounted for about 45 per cent of the total area of the country. Except for the payment of compensation—a process spread over 20 to 40 years—this phase of land reform has been completed. Similarly, despite occasional problems arising from attempts of owners to resume land for “personal cultivation”, and with certain variations between States, the programme for tenancy reform has been also substantially undertaken. Together, abolition of intermediary rights and tenancy reform involve considerable *de facto*

redistribution of land. On the other hand, proposals for imposing ceilings on agricultural holdings have only slowly found their way into State legislation, and a high proportion of the 'surplus' lands has passed out of hand through 'transfers,' many of them being essentially evasive of land reform. In due course, large holdings will disappear in fact as in law but, for the time being, an important public purpose sought through land reform has not been served. Nevertheless, whatever the limitations of the legislation, it is essential that it should be implemented as early as possible.

Apart from ceilings, the next major step in land reform is the grant of rights of ownership to the bulk of tenant cultivators, specially to those occupying non-resumable lands. The direction of policy is that this task should be accomplished before the end of the Third Plan. Some States have undertaken the necessary legislation and are giving effect to it, elsewhere the objective has not been given so far the priority due to it.

In theory land reform was urged and broadly accepted as part of the Plans. In its actual implementation, instead of being developed as a movement rooted in mass opinion, land reform has been generally treated as an isolated programme. In every area in which land reform is carried out, there is need, firstly, for an intensive agricultural drive and provision of supplies, credit and other services; secondly, for greater emphasis on the organisation of co-operative activity; and thirdly, for supporting rural employment programmes. Without such measures, the positive gains from land reform cannot be fully realised.

For the agricultural economy to be placed on a sound basis, the problem of small and uneconomic holdings still remains to be faced. To an extent, in most States, extreme fragmentation of holdings is now avoided, but the limits are necessarily very low. Consolidation of individual holdings has been undertaken on a notable scale only in three or four States. It is doubtful if the total area benefited will at any time be much in excess of 50 or 60 million acres, the largest scope for consolidation being in areas which are irrigated or are likely to come under irrigation. Co-operative farming, rural works programmes, land settlement schemes and intensive development of rural industry are essential not only in themselves but as a means for securing efficient cultivating holdings and completing the reorganisation of the agrarian structure. These elements have to be brought into the Five-Year Plans on a much larger scale than at present.

Over the past few years a distinctive co-operative sector has begun to take shape. The principal advances have been in the field of credit, specially short-term credit, in processing, in particular, of sugarcane, and in the handloom industry. At the end of the Second Plan, there were about 200,000 primary agricultural credit societies with a total membership of about 17 million. Of these nearly 8,000 with a membership of over 3 million were large-sized societies. The total short and medium-term credit advanced through co-operatives amounted to more than Rs. 200 crores, as against about Rs. 50 crores five years earlier and Rs. 20 crores at the beginning of the First Plan. The number of co-operative sugar factories increased steadily from 3 with a total production of 30,000 metric tons in 1955-56 to 30 with a total production of 440,000 metric tons. The number of industrial co-operatives increased from about 8,000 in 1951 to about 15,000 in

1956 and, at the end of the Second Plan, to about 30,000, of which about 8,000 were co-operatives of handloom weavers. For the rest, despite some advances, the role of co-operative institutions is still quite small, and the main task of building up a strong and diversified co-operative movement still remains to be accomplished.

The magnitude of the task ahead will be seen from some of the goals which have been indicated even in the Third Five-Year Plan. These goals will not be attained at the present rate of progress. The volume of agricultural business conducted by co-operative marketing societies was estimated at the end of the Second Plan at about Rs. 200 crores—itself a mere fraction of the total trade in agricultural produce—which it was hoped at least to double during the Third Plan. In the field of co-operative processing, the Plan called for reorganisation of co-operatives of the existing units engaged in the processing of agricultural produce as well as for the allocation to the co-operative sector of the greater part of the expansion in processing industries in consequence of the increase in the production of agricultural raw materials and in the consumption of the final product. In co-operative farming, the broad aim is that over a period of ten years or so a substantial proportion of agricultural land should be cultivated on a co-operative basis. However, in two directions some advance is now expected, namely, consumer co-operatives and, under the impulse of the rural works programme, in the organisation of labour and construction co-operatives. In the reconstruction of the rural economy and in the harnessing of the resources of rural areas, there are no larger or more far-reaching objectives than those connected with the building up of a strong and dynamic co-operative sector. These objectives have not yet been fully incorporated into the concepts and practice of Community Development at the level of the Block and the village. Their attainment is a vital part of the country's agricultural effort and indeed of the entire scheme of planned development.

## VI

To bring about a sharp increase in agricultural production and a rise in the productivity of land have been among the central aims of planning for more than a decade. These tasks have been approached from several directions. In considering the impact of planned development on the rural economy, it is difficult to separate policy from administration and the technical from the economic and social factors. The scope of the agricultural effort under the Five-Year Plans may be summed up in three broad propositions. Firstly, the scale of investment in agriculture has increased from about Rs. 800 crores in the First Plan to about Rs. 1,200 crores in the Second Plan and to about Rs. 2,000 crores in the Third Plan. Secondly, at the end of the Second Plan, some 14,000 agricultural graduates, 5,000 veterinary graduates and about 40,000 village level workers trained in agricultural extension were engaged largely in the task of providing technical guidance and improving the level of agriculture in different parts of the country. Thirdly, steadily increasing resources by way of water, improved seed and fertilizers have been made available, so that the essential technical foundations for raising the productivity of land have been strengthened. Thus, over the first two Plans the net area irrigated increased from about 51 million acres to about 79 million acres, the consumption of nitrogenous fertilizers rose in terms of nitrogen from 55,000 to



230,000 tons, and about 4,000 Government farms were set up for multiplying improved varieties of seeds produced in the research stations.

These measures have led to perceptible results, but certain important deficiencies have also been revealed. Between 1950-51 and 1960-61, the total agricultural area increased by about 19 per cent, the area under foodgrains by about 15 per cent and that under crops other than foodgrains by about 39 per cent. Agricultural production as a whole rose by about 40 per cent, production of foodgrains by 36 per cent and of crops other than foodgrains by 49 per cent. Despite year to year fluctuations, the output of cotton increased nearly two-fold and of sugarcane by about 74 per cent. The average agricultural productivity rose by about 18 per cent, the increase in respect of rice, wheat, jowar and cotton being distinctly higher than, for instance, for maize, pulses and sugarcane. In some States progress in agricultural production has been fairly marked, although the crops whose output has increased vary widely in different areas. The Table below brings out these broad facts in greater detail.

INDEX NUMBERS OF AGRICULTURAL PRODUCTION, AREA AND YIELD PER ACRE

(Agricultural year 1949-50=100)

Crop	Agricultural Production			Area			Yield per Acre		
	1950-51	1955-56	1960-61	1950-51	1955-56	1960-61	1950-51	1955-56	1960-61
Rice	87.9	114.2	136.2	100.9	103.1	109.4	87.1	110.8	124.5
Wheat	101.1	131.3	162.7	99.9	126.7	133.0	101.2	103.6	122.3
Jowar	89.8	96.7	134.6	100.2	111.6	110.8	89.6	86.6	121.5
Bajra	83.8	108.3	101.2	97.4	122.4	123.3	86.0	88.5	82.1
Maize	84.4	112.3	144.5	96.4	112.7	132.9	87.6	99.6	108.7
Gram	98.0	138.9	162.3	91.2	118.0	113.6	107.5	117.7	142.9
Total Pulses	91.7	118.4	128.6	91.9	116.8	116.6	99.8	101.4	110.3
Total Foodgrains	90.5	115.3	135.6	97.9	111.9	114.5	92.4	103.0	118.4
Sugarcane	113.7	119.8	173.9	116.4	125.1	158.7	97.7	95.7	109.6
Oilseeds	98.5	108.6	131.2	106.5	119.3	133.4	92.5	91.0	98.3
Cotton	110.7	153.9	203.3	119.2	164.0	154.8	92.9	93.8	131.3
Jute	106.3	135.8	121.7	121.3	149.4	129.7	87.6	90.9	93.8
Tobacco	97.3	112.9	116.4	102.7	117.8	115.1	94.7	95.8	101.1
Total Non-food-grains	105.9	119.9	148.5	110.8	130.7	138.9	95.6	91.7	106.9
All Crops	95.6	116.8	139.9	99.9	115.0	118.5	95.7	101.6	118.1

Source : Ministry of Food and Agriculture, Directorate of Economics and Statistics.

Increase in irrigation and changes in demand have led in many areas to the substitution of more remunerative for less remunerative crops. This is borne

out by special surveys which have been undertaken and is also reflected in changes which have taken place in the crop patterns of different States. Thus, while there are important variations between States, areas under crops such as jowar, bajra, small millets, barley and sesamum have tended to diminish, while those under crops like rice, wheat, gram, groundnut, sugarcane, cotton and jute have shown an increase. The overall position is illustrated in the following Table:

CHANGES IN CROPPING PATTERNS			('000 acres)
Crop	1953-54	1961-62	Increase (+) or Decrease (—) (%)
Rice	77,318	83,669	+ 8.2
Wheat	26,394	33,240	+25.9
Bajra	30,145	27,027	—10.3
Jowar	43,882	43,074	— 1.8
Barley	8,719	8,255	— 5.3
Small Millets	14,028	11,714	—16.5
Gram	19,689	24,078	+22.3
Groundnut	10,495	15,848	+51.0
Sesamum	6,351	5,561	—12.4
Sugarcane	3,485	5,942	+70.5
Cotton	17,265	18,710	+ 8.4
Jute	1,228	2,259	+84.0

Source : Ministry of Food and Agriculture, Directorate of Economics and Statistics.

In a planned economy, in those areas in which crop prospects are reasonably secured through irrigation and assured rainfall, cropping patterns should be a matter of systematic and studied planning and should not be subject to any marked extent to short-term shifts in prices and demand.

We may next attempt to identify certain weaknesses shown by the agricultural trends of the past decade or so. This will suggest the directions in which policy, planning and administration need to be strengthened. Under conditions of planned development in India, three important tests should be met in planning for agricultural development. The first is that the agricultural economy should be developed and stimulated to the extent of providing for increase in the requirements of food and raw materials in accordance with the estimates of the Plan. Variations on account of seasonal factors could be progressively provided against through buffer stocks and other regulatory measures. Apart from such variations, in keeping with the crop plan, the relative prices and other economic incentives should be as nearly equal as possible as between different crops. Secondly, there should be steady increase in production and yields in *all* parts of the country and, in particular, in areas with irrigation and assured rainfall. In the third place,



through increase in yields, adoption of improved techniques and improvements in the size of the unit of cultivation, cost per unit of production should be kept down and even reduced. The high level of costs in Indian agriculture at present is both an index of backwardness and a drag on the development of the economy as a whole. On these three tests, both the techniques of agricultural planning which have been actually followed and the performance of agriculture have on the whole fallen short, the gap being much larger in some sectors than in others. Thus, for oilseeds which are important for domestic consumption as well as for exports, over a period of ten years the yield per acre scarcely increased. Though the output of cotton has increased considerably, both on account of improvement in yields and increase in area, the output is still significantly short of requirements. In the case of an export crop like tobacco, the yield per acre has not materially improved. In respect of foodgrains, the goal of self-sufficiency, which was set for the First Plan and again for the Second, has yet to be reached.

The Benchmark surveys undertaken by the Programme Evaluation Organisation show that except in a few areas there has been relatively small increase in the double-cropped area. A number of re-surveys of villages which have been undertaken, for instance, in Maharashtra, Punjab, Uttar Pradesh, Mysore and elsewhere, indicate that even where irrigation has led to changes in cropping patterns, in the methods of cultivation and in the tools and implements employed by cultivators, there have been few radical improvements. This points to a persistent inadequacy both in the organisation and in the techniques and objectives of extension work.

Lags in the utilisation of irrigation present a more complex problem reflecting, on the one hand, deficiencies in agricultural policy and administration and, on the other, existing weaknesses in the organisation of community effort and in extension methods. The problem has been examined in considerable detail in a number of inter-State conferences, in the reports of the Irrigation Team of the Committee of Plan Projects and in a study undertaken by the Programme Evaluation Organisation. On the available data it appears that at the end of the Second Plan, as against a total potential of about 12 million acres from major and medium irrigation projects, the actual utilisation was of the order of 9 million acres. The gap between the potential and the actual utilisation appears to be still of this order. The same problem also exists in respect of minor irrigation works such as tanks and tubewells. It is obvious that a many-sided approach has to be adopted to achieve the speedy utilisation of irrigation facilities. This must include more precise knowledge of the water resources of an area through surveys and investigations, co-ordinated action by different agencies, evolution of suitable crop patterns, supported by measures to facilitate their adoption on the part of cultivators, acceptance of the obligation to construct and maintain field channels, not only by the beneficiaries individually but *by the village community* as a whole, and policies relating to the distribution of water and irrigation cesses which are better calculated to promote speedy utilisation. Since a variety of factors are responsible for what is doubtless a critical weakness in the present agricultural situation, in addition to steps which are already being initiated, it would be desirable to take up some areas on a pilot basis with the deliberate object of evolving techniques under field conditions for eliminating the time lag between the creation of the irrigation potential and its utilisation and for promoting

a higher level of agricultural technology simultaneously with the introduction or expansion of irrigation facilities.

This brief review points to four main conclusions. Firstly, in the planning of agriculture a much more central role should be assigned to price policy and the organisation of marketing than has been done so far. This involves both closer analysis of cost and returns for different crops as well as continuous study of the conditions of cultivation and marketing actually prevailing in different parts of the country. Secondly, there are definite indications that the existing agricultural administrations in the States, the numbers and quality of extension personnel and the techniques of extension do not answer adequately the requirements of rapid development in agriculture. The Community Development organisation in the Blocks has to be greatly strengthened in terms of technical, agricultural and extension personnel. The earlier expectation that the village level worker, as the common agent of the various development agencies functioning in the Block, would also meet adequately the requirements of agricultural extension needs to be reviewed. For this there are two reasons. With the development of Panchayati Raj, even if agriculture is always given the first place, the more general administrative and organisational functions will frequently tend to take precedence over work of a routine and technical nature. Secondly, the progress already achieved in agriculture and the new environment and outlook which has emerged in the villages in many parts of the country has created a demand for higher levels of skill and knowledge on the part of the agricultural extension service than village level workers can at best be expected to provide. There is also need for a much more intimate connection between agricultural research and its application in the field. An expert committee has recently listed outstanding agricultural practices in a number of areas and has attempted to identify the practices to which the high yields of crops like rice, wheat, sugarcane and cotton obtained in these areas may be attributed. The variations in yields and in the general level of agriculture even between different parts of the same State are extraordinarily wide. In the effort to bring up levels of cultivation and agricultural practices to similar standards, it would be desirable to spare resources neither in men nor in money. The requisite agricultural personnel can be provided only over a period. However, recent developments such as the accelerated programmes for cotton and oilseeds, for soil conservation and in the intensive agricultural districts emphasize the urgency of a new outlook on agricultural administration and the development of extension services.

The third main conclusion which may be drawn from current experience concerns the place of community action in the scheme of agricultural development, specially at the level of the village. This is an indispensable condition for realising substantial increase in agricultural production, widespread adoption of superior techniques and practices and the organisation of co-operatives, specially for marketing and production. The most important aspect of such community action must be the full utilisation of the manpower resources of each village and each area. In a system of peasant farming, the labour of each household may be expected to be well utilised. However, in the Indian situation the existence of small and uneconomic holdings and of large bodies of agricultural labourers accompanied by rapid growth of population leave a considerable reserve of manpower which could be mobilised for productive work. With a larger and better organised labour input, it is possible to extend irrigation, undertake soil conserva-

tion, dry farming, land reclamation and afforestation, and adopt labour-intensive agricultural practices on a scale far exceeding that yet attempted in any part of the country. Hiring of labour by individual households cannot provide for continuity of work, and is inadequate as a means for harnessing all the manpower available in the village. Such a task can only be undertaken by the village community as part of a wider area plan which ensures the requisite resources, technical guidance and other facilities. It is therefore necessary to redefine the relationship between the individual landholder or cultivator and the community in terms of the present imperatives of rapid economic development and the fullest utilisation of manpower.

In many areas it should be possible to create conditions in which the demand for labour could be greatly increased, not merely in busy seasons but throughout the year. As is well known, in present day Europe, a number of countries receive a regular influx of unskilled workers from other countries which have larger labour reserves and are absorbing these workers permanently within their own economies. This is because their own economic development is rapid and renders them continually short of labour. In the same manner, agricultural activities could be intensified in areas with irrigation and assured rainfall on a scale which could, in time, not only assimilate the local labour force but also create conditions in which there would be additional demand for labour from other areas and, in some cases, even from other States. Thus, a policy aimed at the fullest utilisation of rural manpower resources will also bring out the possibilities of planning for the redistribution of the rural population within individual States and, progressively, between different States.

A marked intensification of agricultural operations, supported by extension activities, community action and the full use of manpower and by co-operative organisations, will call for a bolder and more forward-looking approach to investment in agriculture. The agricultural growth potential of many areas cannot be realised without a much higher level of investment than the existing plans and schemes of community development provide for. The consequence is that planning becomes rigid, the local manpower resources are not fully harnessed to productive effort and the growth of the agricultural economy is in fact retarded to an extent that may not be always realised. There should be a special provision in the scheme of annual allocations under the National and State Plans for additional resources beyond the customary norms for areas in which intensive agricultural operations are likely to yield significant additions to output. In these areas, to begin with, the scheme of land utilisation, cropping patterns, the inputs of capital, labour, fertilizers, etc., as well as the marketing and processing of agricultural produce should be planned for the village and the Block as a whole, and responsibility for the enforcement of standards and for the fullest utilisation of manpower and other available resources should be placed on the community.

## VII

In the numbers it engages and in the contribution it makes to the national product, agriculture will always be India's leading industry. In the more advanced countries, on account of improvements in the techniques of agriculture, production has continually increased even as numbers on the land have diminished. At the same time, with agriculture still the main occupation in rural areas, the distance between the village and the town has been broken down. In fact, the rural and

the urban areas, while retaining their distinct character, yet form part of a single integrated national economy. In these countries it is the urban areas which constantly pull the rural areas in their own direction. The nature of the problem of poverty in India, the size of the rural mass, the limited number of centres of major industrial activity and the very process of planning for development both in economic and human terms, to which we are committed, lead to the conclusion that the pattern of relationships between the rural and the urban and the industrial economy which we seek to build up over the next 15 or 20 years should be carefully thought out at this stage in our development. In the nature of things, many decisions have to be taken which involve choice of location, choice of technology, selection of industries and the building up of economic and social overheads. These decisions have profound long-term effects and set in train further chains of action and reaction which will later leave little room for manoeuvre to those concerned with planning or legislation or the making of policy. Sooner than may be perceived, the balance and momentum of a complex economic structure largely begin to dictate the course.

In what manner, then, should we plan for agriculture and the rural areas so that, in time, the rural and the urban economies will merge into one another? As mentioned earlier, the gap between the output per worker in the villages and in the towns is already appreciable and, in the absence of a larger strategy of development, the forces leading to a further widening of this gap will prove too powerful to resist. However intensive the process of industrialisation and urbanisation, by its very nature, its influence will be felt most fully in small and limited areas and the impact further afield will be much smaller. In other words, one of the essential aims of economic planning in India must be to find a way to avoid a marked and continuing dichotomy in the pace and direction of development in urban and rural areas. An impelling reason for this is the existence of a large labour surplus in the villages which no amount of agricultural development can by itself absorb to the extent of providing full-time gainful employment. Moreover, beyond a point, the growth of agricultural output will be held back unless there are strong incentives towards increase in agricultural production associated with new economic opportunities and improvements in levels of living.

Under the existing conditions of agricultural organisation, the rural economy is not well placed for mobilising its manpower and other resources and gaining adequately from the processes of industrial and economic development which have been initiated. There is a vicious circle inasmuch as an under-developed region cannot secure or sustain the economic and social overheads needed for rapid growth and, without these, the balance of economic advantage continues to go against it. It may need all the skills and leadership it can muster and more. Yet, these it must lose to regions which are developing more rapidly. There is, thus, a close connection between securing rapid increase in agricultural production, creating in the rural areas expanding opportunities for non-agricultural employment and building up an efficient rural economy along co-operative lines. It is in the measure in which these three aims are pursued as part of the same basic concept of agricultural policy that it will be possible to achieve the necessary integration between the rural and the industrial economy and to raise significantly the levels of income and living for the bulk of the people in the rural areas.