CONCLUSION
It is now proposed to recapitulate some of the important points that have emerged as a result of our study of the planned development of the Indian agriculture during the First Five Year Plan period.

The effect of the general organisational and technological changes that were brought about during this period can best be assessed by examining the change in the agricultural productivity. A change in general productivity means a change in the ratio of total output to total measured inputs. Normally a change in general productivity occurs when a change in the index of output is larger or smaller than a change in the index of all measured inputs. Our study of agricultural sector during the First Plan period is much handicapped due to the non-availability of data concerning the rise in productivity. Only indirect inference of change in productivity was possible by finding out total increase in the agricultural output due to the total developmental outlay during this period. Total agricultural production has risen by about 22 per cent a result of the numerous activities initiated during this period. Therefore, one of the main conclusions of our study is that the response of the agricultural sector, in terms of the increase in output, attributable to the implementation of general policy during the First Plan, was not very satisfactory especially when a sizeable part of this rise was due to favourable climatic conditions.

The success in the introduction of improved techniques in agricultural sector has been limited during the First Plan (as judged by relatively stable yield per acre figures) and further improvements in this respect through greater use of fertilizers, more efficient farm equipment and improved seeds are found to be dependent on an increasingly stable supply of water. In this connection, it is to be noted that
the percentage share of irrigated area to area sown under foodgrains and total crops (food and non-food) as a whole have more or less remained constant i.e., around 19 per cent and 17 per cent respectively throughout the First Plan period. Rice and wheat have definitely shown an improvement over the period of the First Plan relative to the pre-Plan period in the sense that larger area under these crops was irrigated. However, the proportion of area under irrigation to the gross area sown under rice and wheat remained as low as 34.9 per cent and 33.5 per cent in 1955-56 respectively, in spite of the fact that it accounted for the highest share of the gross irrigated area under all crops. The other crops viz., minor cereals and pulses were in general relatively less important from the point of view of their water requirements. Barley, of course, formed the single exception; a little over half of the total area sown under this crop was irrigated during the First Plan period. Maize, ragi and gram were the next important crops and respective percentage shares of their irrigated acreage in those years were approximately equal to 12, 17 and 11; while jowar, bajra, small millets and tur being relatively dry crops, only negligible production (not exceeding 5 per cent) of the areas under these crops was irrigated. Among the non-food crops cotton showed a substantial increase, as revealed by the fact that the percentage share of its irrigated acreage went up from 8 per cent in 1950-51 to 10.3 per cent by 1955-56.

The existing water potentialities and the extent to which they have remained under-utilized at present determine the future prospects of irrigation in India. An appraisal of the water flow in each of the existing river basins together with a study of rainfall and temperature in such areas showed that the total annual flow was equal to about 1400 million acre feet for the entire Indian Union. It was estimated from
the available data that approximately 450 million acre feet could be utilized for beneficial purposes. Only about 75 million acre feet i.e., about 17 per cent of the total available area were actually utilized at the beginning of the First Plan. Additional supplies were, however, to be utilized by the projects taken up during the First Plan as a result of which the percentage of water used rose to 30 per cent or about 136 million acre feet at the end of the Plan. The irrigation potentialities in future, therefore, largely depend on the development of various irrigation projects planned to harness and utilize the existing water resources. It would not be too incorrect to say that the extension in the irrigated area during the First Plan did not fulfil the requirements of the desired expansion in agricultural output.

During the First Plan, efforts were made to increase area under green manure and the total area under green manure at the end of the First Plan period stood at about 6 million acres. The use of farm yard manure, compost manure, bone meal, oilseeds, and other manures also increased over the period of the First Plan. The total outturn of raw cattle dung in 1956 was estimated at about 1200 million tons, of which only 50 million tons or roughly 4 per cent was produced in urban areas and rest in the rural areas. The NCAER estimated that about one third of the total production of dung (400 million tons) was used as fuel, while about 220 million tons were used for manurial purposes. In case of compost manure, the number of urban centres which participated in the preparation of compost manure experienced a substantial increase during the First Plan period from 1050 in 1950 to 2050 by 1955-56. By the end of the First Plan, it appears that about 360 bonedigestors were in operation throughout the country. It was further estimated that the total production of bone-meal by large and small units was of the order of 34000 tons per annum by 1955-56. The total amount of oilcakes
produced in India from different oilseeds was estimated at about 2 million tons per annum. The consumption of oilcakes as a manure was of the order of 700,000 tons and 800,000 tons, mostly, by such crops as cotton, sugarcane and vegetables during the First Plan period. A list of other organic manorial resources, from which valuable plant nutrients can be produced, includes sewage and sullage water hyacinth, blood-meal, hoof-meal, meat-meal, etc. The proportion of nutrient content in these was quite small but they were available in enormous quantities and could, therefore, form an important source of manure. However, the utilization of different kinds of manures was expanded in the First Plan period. But a very small percentage of total cropped area was actually under the widespread use of these manures. The production of different fertilizers such as nitrogenous, phosphatic, potassic and other fertilizers increased at fair rate during the Plan period. But the actual utilization of these fertilizers by the farmers was limited by the fact that the prices of these fertilizers were generally beyond the means of the users. This indicates a serious lack in co-ordinating the production of fertilizers and their utilization by the farmers.

About 44 million acres of food crops were covered by improved seeds by 1955-56. Almost 50 per cent of this area was covered under rice and wheat crops whose acreage under improved varieties stood at 12 million and 9 million acres respectively and the rest was covered by other food crops during 1955-56. Among non-food crops, cotton was the only crop which was covered extensively with improved seeds. Out of the total cultivated area of 20 million acres under cotton in 1955-56, 13.6 million acres were under improved varieties. However, considering the total size of cropped area, the progress made in producing and distributing improved varieties of seeds for food and non-food crops was less satisfact-
ory not only in the sense that a very small percentage of cropped area was covered by better seeds but it was also because there was no proper agency to distribute enough amount of improved seeds among the farmers during the First Five Year Plan period.

The technological improvements were neither introduced properly nor practised effectively during the First Plan. Moreover, measures connected with these technological improvements were not applied to the entire cultivable area but were confined only to the areas covered by Community Development Projects and the National Extension Services. Even in these areas, the mode and method of the application of these technological reforms did not always prove to be economically effective and practicable. A desire to raise the production of food and non-food crops through technological improvements in agriculture was not only the chief motivation of the First Five Year Plan but a equally high importance in this regard was also attached to the method of extensive cultivation. The reclamation of land which currently lies waste constitutes one of the potential sources of supplementing the available land under cultivation with the help of tractors. The extent of such reclaimable land was about 57 million acres on the eve of the First Plan, that was more than 8 per cent of the total gross geographical area. However, this represented an absolute upper limit in regard to land that could be made available for cultivation. Detailed surveys, wherever conducted, revealed that the proportion of the culturable waste which could be brought profitably under the plough was quite small. The total area reclaimed by the Central Tractor Organisation during the First Plan period has not been impressive at all. A maximum area of 786,000 acres was reclaimed in 1950-51; but during the years of the Plan the activities of the C.T.O. were on the decline instead of rising. It was experienced during the First Plan that C.T.O. suffered from the handicap of being
located far away from the places where its services were needed. The re-utilization of fallow land was also regarded as one of the means of extending area under cultivation during the Plan period. Area under fallow land declined by about 30 per cent during this period which was, however, not too insignificant and can be regarded as a fair success.

During the First Plan period, efforts were also made to introduce the simple and complex types of technological improvements in the Indian agriculture. But these efforts did not succeed in innovating land-saving techniques as the increase in the agricultural production was mainly the result of an extension of area under total gross sown area. It was evident from the fact that gross crop area increased by about 11 per cent in the Plan period while per acre yield almost remained constant. Moreover, the new techniques which were introduced during the First Plan were not such that they could be applied effectively on small holdings of the cultivators. This explains why the smaller cultivators failed to contribute significantly to an increase in national product during the First Plan. It may also be noted that capital outlay required to bring about substantial advances in agricultural operations and production was high relative to the increase in output actually attained. Therefore, it cannot be gainsaid that the introduction of new techniques in Indian agriculture proved costly which in turn restricted their application on a wide scale.

The First Plan envisaged a basic change in the existing organisation of Indian agriculture in order to encourage the adoption of more efficient practices by Indian peasantry. It was thought to be a necessary condition precedent to any kind of agricultural planning in India. In this connection, the main task should have been to organize scattered agricultural producers into a well-integrated co-operative system so that at each stage of their operations they could have received necessary
direction from one or another unit of the co-operative system. The First Plan failed to assign top priority to this task of creating a completely integrated state sponsored co-operative organisation throughout the country which could have made agricultural planning more effective. In the absence of an efficient national co-operative organisation, the programme of agricultural development appears to have been conceived of as a series of independent and un-co-ordinated developmental activities. This led to the adoption of a method that comprised the determination and fixation of the targets on a country wise or state-wise basis and then finally breaking them down into targets for smaller areas or units. Therefore, this approach that was adopted during the First Plan failed to make full use of development potentials and led to very low degree of correspondence between expectations and achievements in agricultural planning.

During the First Plan period, all forms of feudal organisations were proposed to be eliminated by abolishing zamindari and jagirdari land tenures. A fair measure of progress was attained in this respect. These land reforms facilitated a more equitable distribution of land among the agriculturists but their success in evolving an agrarian economy with high levels of efficiency and productivity was not satisfactory. These reforms were supposed to be simple and obvious solution of a complex problem i.e. Indian agriculture in its totality. Land reform was regarded as one of the necessary conditions of the social change that the Indian planners wanted to stimulate. But it is a fact that these reforms were used more as a convenient slogan as no detailed programme was framed with respect to specific aims that were supposed to have been served through the abolition of zamindari rights during the course of the Plan. An emotional adherence to the principle of nationalization of land does not always lead to desired results. The
need to stress this point arises from the fact that even highly
developed nations do not yet possess an answer to this problem of
proper utilization of land by its owners. If highly organized and
developed economies have not find ways and means to meet this problem,
a feeling to have obtained a solution in the case of a comparatively
less developed country like India, is quite unrealistic. A person who
is given the transient satisfaction of land ownership may thereafter
suffer the lack of capital, for seed, fertilizers and machinery; he
may be without a necessary training to be an independent operator and may
have no ready market, or if one is available, may lack market experience.
Indian experience shows that land reforms were not completely successful
because they were conceived of more as a politico-economic programme
with the obvious result that their economic implications were not worked
out fully. Even their implementation was not without fault as the new
consolidation of holdings which formed an important part of Zamindari
abolition programme could not be completed in a reasonable period.
Nevertheless, these land reforms caused a new awakening in rural India
making it more self-confident and self-reliant. The creation of this
new social atmosphere was a big gain and could be expected to generate
rapid increases in the levels of well being of the rural community,
provided the present agencies responsible for agricultural development
act in greater unison and colloberate more closely with the agriculturists.

A surplus of labour relative to other resources makes for an in-
efficient combination of factors of production. The First Plan stipulated
a sizeable transfer of farm-labour to non-farm areas. It is a pity that
data indicating such transfer are neither perfect nor adequate. The
imperfection consists of lack of accurate knowledge concerning the
opportunities and the actual size of labour transfers to the new areas.
No specific provision was made in the Plan regarding the types of assistance that could be provided to improve the transfer of surplus labour from agriculture to other activities. In the absence of any clear-cut programme this transfer of rural population that may have taken place has been rather aimless. No efficient agency was established to provide necessary information such as job counselling, job training, placement, loans and grants to facilitate an organised transfer of such labour force. Neither Community Development Project nor Rural Extension Services undertook to explore and facilitate this transfer to new and fruitful channels. In spite of the fact that it is common knowledge that Indian agriculture suffers from heavy pressure of population which gives rise both to unemployment and underemployment, the First Plan failed to effect a break through towards a permanent solution of this chronic and persistent problem.

Adequate incentives and disincentives were called for to induce the farmers to utilize improved techniques of production in the desired manner and also for the production of the desired crops. An important incentive in this regard was to bring about an improvement in the marketing of agricultural produce. In spite of the fact that various steps were taken to improve marketing of agricultural products, numerous mal-practices persisted during the First Plan period to vitiate the organisation of an efficient marketing system. The adoption of co-operative marketing remained a considerably neglected subject and made little headway during this period. During the First Plan period marketing conditions remained more or less the same. Another reason why no tangible benefits accrued to agricultural producers was the inadequacy of proper warehousing facilities where graded standardized, indentifiable and bonded supplies could be stored during the Plan period.
The average Indian cultivator is faced with an acute shortage of capital which reduces his ability to increase appreciably the size of his output. An efficient system of agricultural credit is necessary if agriculture is to make its contribution to economic development. Agricultural credit must lead to a cumulative increase in agricultural productive power. Therefore, the conversion of static credit into dynamic credit should be the primary objective of the agricultural credit policy in India. During the First Plan period, the number of credit co-operative societies increased at a fair rate and the number of their membership too. They supplied credit (both short and medium term) to the extent of about Rs. 500 millions by 1955-56 as against the amount of Rs. 229 millions at the beginning of the Plan. The Co-operative Banks also played an important role in supplying credit to the rural population, especially medium and long term loans. The banks and credit societies together commanded virtually all the funds made available for agricultural credit through government agencies and co-operatives. The shift in emphasis in favour of co-operative agencies was mainly due to the fact that Government was determined to pursue a policy of strengthening co-operative movement. But these developments have not been sufficient to help the needy farmers secure adequate credit finance for development of agriculture and utilization of inputs in the best possible way.

The First Five Year Plan Report envisaged Price Control as the main instrument of regulatory action during the course of national economic development. A number of paragraphs on price-policy for the Plan and the controls (paragraphs 53 to 73 of the Report) made clear how necessary it was to have an overall price-policy, and how it could be expected to secure allocation of resources in conformity with the objectives of the Plan. The importance of an effective regulation of foodgrain prices in itself, and also in relation to prices of competitive crops, was
specifically emphasized. In view of such careful statements in this regard in the Plan, it is obvious that the Planning Commission was expected to watch closely the evolution of the actual situation. The Plan was formulated at a time when prices were still under inflationary pressure. Within an year of implementation of the Plan, prices came down and were comparatively free from inflationary pressure for the rest of the period. But at the same time, they did not remain stable. Prices continued to fluctuate widely from year to year, and towards the end of the period, prices of agricultural produce approximated levels which were definitely low. In the face of this situation, the Government of India behaved as if it was concerned only with prices that were too high or under inflationary pressure and was little bothered if they were low. One may even say, it behaved as if fluctuation in prices were no concern of the Government. The Planning Commission appears to have pressed on Government no views in relation to this development. If the Commission's theoretical formulation regarding the role of prices in the allocation of resources in the Plan had any validity, it should have been greatly disturbed at the range over which the prices of agricultural commodities were fluctuating. The Commission itself admitted its failure to detect and redress this unhealthy trend in agricultural prices in time.

"While it is true that the level of prices at the commencement of the First Plan was unduly high and a corrective fall was necessary, there is little doubt that the decline in foodgrains prices that occurred about the middle of the Plan period was excessive and harmful. This downward trend could not be arrested in time because there was considerable doubt for some time as to the appropriate level at which Government ought to buy'.

Agricultural commodities whether in raw forms as tea, tobacco, spices, etc., or in a semi-finished and finished form as sugar, cotton, jute textiles and vegetable oils form the bulk of India's exports.

1 Third Five Year Plan, p. 14.
accounting for nearly three fourths of the total. During the First Plan, though the domestic supply of some of the major commodities such as tea, sugar, cotton and jute increased at a fair rate, the exports of these commodities fell during the same period. India's total output of tea was 610 million lbs. between 1949 and 1951 and 625 million lbs. between 1952-54 while exports were 440 million lbs. and 435 million lbs. in respective years. The output of cotton textiles went up by nearly 30 per cent from 1951 to 1956 while export of cotton textiles fell by about 4.5 per cent over the same period. In the case of other commodities, the trend has more or less been similar. Therefore, the total exports of agricultural commodities came down to Rs. 489.3 crores in 1955-56 from Rs. 496.5 crores in 1950-51.

In view of the preceding data, it is not unexpected that the export expectations of the First Five Year Plan were not fulfilled. The Planning Commission had admitted that the volume of exports at the end of the First Plan period would rise by 30 per cent compared with that in 1948-49, and by 10 per cent compared with the boom year 1950-51. In practice, the average volume of exports for the Plan period was only 10 per cent higher as compared with 1948-49 and about 10 per cent lower as compared with 1950-51. The increases expected in the exports of the major commodities were, thus, also not realized.

The Plan visualized an economic development of the country that required a balanced expansion of the various sectors of the economy. It was obviously a desirable aim because if the 'expansion potential' in some critical sectors was low or negligible, the 'expansion potential' of the other sectors could not be very effective. The main difficulty in promoting a balanced expansion of various sectors of the economy
arises out of the fact that the social factors making for expansion are not present equally in all sectors of the economy. Therefore, in the First Plan, an attempt was made to maintain certain relationships between the rates of growth in the two sectors. The view, generally accepted by the Indian planners, was that the growth of industrial production should be accompanied by a growth of agricultural production. In other words, the proportions of the output of agricultural sector which is not consumed inside the same sector but is supplied to industrial sector should steadily grow larger. In a country like India where about 70 per cent of the population is working on land, the agricultural producers are expected to sell only a little more than one-fourth of their product, the rest being consumed by themselves. It was, therefore, essential that Indian Plan should have aimed at a basic improvement in agriculture in the shortest possible time. It has been the experience of all industrially developed countries that an 'agricultural revolution' always preceded the 'industrial revolution'. The 'agricultural revolution basically consists of a steady growth in food production and in the productivity of labour. Thus any development of agriculture must promote higher yield per acre and higher productivity per man because only such development enables the agricultural sector to supply both food and manpower to industrial expansion. The framers of the First Plan were quite conscious of this aspect of the development of agricultural sector but the implementation of their policy in this regard was both inadequate and unsatisfactory.

One of the primary tasks of the administration of the new policy of planned development of Indian agriculture was to enlist mass cooperation of the agriculturists in promoting healthy activities in the agricultural sector as a whole. It is difficult to say that the administration has succeeded in this task. The quality of administrative
personnel, the nature of their functioning, their integrity, skill, initiative and energy has not altogether been above reproach. Much, in fact, depended on the behaviour of the service personnel as they were principally responsible to supervise and coordinate the activities at all levels of agricultural operations. The agricultural administration did not fulfil the expectations of the new agricultural scene and thus failed to provide the leadership necessary to spur the rural community to higher efforts and more purposeful activity. Another important aspect of the agricultural administration during the Plan was that there was a manifold increase in its activities which did not always lead to higher efficiency. The administration, in fact, became more ambitious when it decided to expand its activities in all directions. This expansion in the administration did not allow the consolidation and better supervision of the existing responsibilities. Indian agricultural planning suffered from over-enthusiasm in the sense that it wanted to do too many things at the same time and thus failed to act in conformity with a developmental programme which could have been conceived more appropriately if it had been prepared strictly according to a well thought-out scheme of priorities in the agricultural sector.

The role of education in promoting the economic development cannot be minimized. Its role is of equal importance in the development of Indian agriculture. There will be a critical point at which the organisation of agriculture on modern scientific lines will enter into a phase where there will be great demand for educated and well trained workers in agriculture. It is a pity, therefore, that no programme of education specifically designed for rural population was available in the First Plan. A programme of education having a bias in favour of specific needs of rural India is extremely urgent. Agriculture would remain a strategic sector of our economy for a long time to come and if the
importance of education catering to the needs of this sector is not recognized in time, agriculture would continue to suffer from a lack of trained people which would thwart the progress of agriculture. A rapid spread of education among the agriculturists has played a key role in bringing about an agricultural revolution in all advanced countries. A national system of rural education must, therefore, form an important part of any policy of planned development of Indian agriculture.

A major objective of the present study was to find out how far the First Five Year Plan succeeded in initiating a break-through in the stagnant economy of Indian agriculture in order to promote a rapid rate of economic development. A breakthrough in agriculture could be defined as the undertaking of the critical 'minimum effort' which is essential for a sustained growth of agriculture when output per head may constantly rise and an agricultural surplus is generated. One of the most important conditions of economic development of the Indian agricultural sector relates to the possibility of obtaining an agricultural surplus at a steady rate in the future. The application of the above criterion in the determination of the nature of progress attained in agricultural sector during the First Plan indicates that our planners held an unrealistically optimistic view of the rate of development of this sector as their estimates in terms of the capital expenditure on agriculture did not satisfy the actual requirements of a progressively expanding agricultural sector.

The fundamental nature of Indian agriculture, before the advent of planning, was that it was caught in a low-level equilibrium trap and exhibited a limited possibility of sustained growth as the agricultural
sector did not indicate such upward trend where it could yield a surplus. In order to ensure a sustained growth in agricultural sector, an agricultural surplus must come into existence and must persist.  

The settling down of an economy to its trap level of output is always due to the fact that agricultural surplus begins to disappear, the agricultural labour force grows at a rate which is more rapid than the rate of growth of population which in turn arrests the expansion of the manufacturing sector also. From the point at which industrial expansion tends to decline, the force of the traditional economic system takes the system to its trap level and food output per capita declines to stationary level.  

Thus, the First Plan expected an increased availability of resources for investment in agriculture and also important changes in the social organisation of this sector, but at the end of the period, the Indian agriculture did not indicate any tendency towards sustained growth, i.e., there was an absence of any positive and growing agricultural surplus that could be expected to give rise to a sustained capital accumulation and increase in agricultural output. It can, therefore, be concluded that the agricultural policy pursued during the First Plan period failed to initiate any breakthrough or a 'big push' of activity associated with an extraordinary high rate of growth in the agricultural sector.
