C H A P T E R IX

Summary And Conclusion

India is per excellence a land of peasent farming where small family farms predominate. The land-man ratio in our country is very unfavourable; the average size of farm being only 6.49 acres. Moreover, farms are becoming smaller in each successive generation due to subdivision and fragmentation of holdings. However, it is significa-nt that about two-third of our cultivable land is cultivated in economic holding in the sense that size of the farm is 10 acres or more in this share of land. It should be noted in this connection that in the context of HYVP and Multiple Cropping Programme holdings of considerable lower size, say 5 or 6 acre - size, may be accepted as economic holdings according to the Indian Standard.

There is a tendency for the size of the marginal farms of both the ends (i.e, farms upto 5 acres and farms above 50 acres) to change over time. However, inspite of different programmes and policies undertaken by the Government in the field of agrarian reforms since the last 20 years, no appreciable change in the size of the farms in India has occurred so far.

Prior to the begnning of the planning period the general level of agricultural technology in India was in a very wretched condition. Although the number of tractors in use has increased during the planning period a recent estimate shows that "in India on an avera-ge, only one tractor is available per 12,500 acre of land". There has, of course, been a marked increase in the number of oil engines and electric pumps during the Second Plan. Several new factories were built up in the fifties for the production of agricultural tools and implements. Of the total area under cultivation 19 per cent is irrigated at present

through major, medium and minor schemes.

Since the late sixties, with the introduction of HYV seeds, the consumption of chemical fertilisers and pesticides is steadily increaseing. Due to the package application of these technologies there has been remarkable increase in the productivity of foodcrops, particularly of wheat, in some areas of the country which has been widely acclaimed as "green revolution".

The studies in the Economics of Farm Management have observed that "output per hectare decreases with increase in farm size". This inverse relationship between the farm size and productivity is to be explained by the "differences in the level of different inputs" commanded by different farms. As the size of the farm grows the task of coordination becomes difficult. So the upper limit of the ~~xx~~ efficient size is to be determined by the capacity of the farmer to supervise the enterprise properly and the lower limit, ~~xxx~~ by the capacity of the farm to offer ample employment opportunity to the farmer and his family throughout the year. From this point of view most of the ~~xxx~~ farms in India do not belong to the efficient size-group.

The cost econmmics enjoyed by the larger farms may also be enjoyed by their smaller counterparts through cooperative organisations and custom services. Over and above the ~~xx~~ position of the smaller farms is better in matters of management, proportion of owned inputs, stability of income and ability to accommodate with lower price. It should be noted in this connection that there is no unique size of the farm from the point of view of efficiency criterion, nor the efficiency of the farm depends very much on its physical size.

The infrastructure needed ~~fro~~ for technological change is not well developed in India. The tenurial system is defective and the average size of the farm is small. The credit

institutions, though improving, are not equal to the task. The extension service, arrangement of research and farmers' training are also poor.

Paucity in supply of adequate quantities of fertilisers, seeds and pesticides is another bottleneck. Apart from financial stringency, introduction of machinery is handicapped due to lack of cheap power, transport and banking facilities, ~~availability~~ availability of spare parts and difficulties of repair and maintenance of costly machineries. Again, in India, due to pressure of population the elasticity of substitution between labour and capital in the form of machinery is not high. Finally, there is the problem of price uncertainty.

The scope for the introduction of mechanical technologies is limited at present in India. Such limitations follow not only from the size of farms but also and mainly from lack of financial and managerial resources and lack of alternative employment opportunities. However, in specific spheres use of ~~improx~~ improved implements and small machineries may be helpful and desirable. Thus there is scope for the use of improved iron ploughs, power-tillers, seed-drills, repears, power driven pumps for irriga-tion, plant protection equipments, processing and threshing machinery and better implements for lining, hoeing, weeding etc. Most of these implements do not need much capital, are productive in use, do not displace much labour and are helpful for timely cultural operations. As for the biological technologies, which are neutral to the scale, the scope is naturally much better irrespective of the size of the farm. The main limitations for these tehhnologies are the availability of irrigation facility and ~~xxx~~ initial capital.

The study of production function of the Indian agriculture reveals that there exists regional disparities in the productivities of different inputs. This is of course natural for a vast country like India. However, it has been found that in ~~genera 1~~ general the production elasticity for land input is quite

high even under traditional system of cultivation. As for labour input, its productivity varies in different regions and even in the same region on the besis of the type of the farms - i.e., big or small, irrigated or unirrigated etc. With the introduction of new technologies the functional significance of labour input is increasing and it is becoming more and more remunerative.

The productivities of biological technologies, i.e., fertilisers, high-yielding seeds and pesticides, have been found to be very high in almost all the regions.

Our study points that returns to scale for the Indian agriculture is more tending towards deminishing returns. However, it is expected that with the spread of new technology and better farm planning at the micro level this tendency towards deminishing returns to scale of the Indian agriculture will be overcome.

According to 1961 census total number of agricultural workers (cultivators and agricultural labourers) engaged in crop production is 131 million of whom about 32.75 million are surplus or under disguised unemployment. For a fuller picture of employment position we shall have to consider the magnitude of seasonal unemployment along with this. The Planning Commission has estimated that the number of workers in agricultural sector as a whole is going to increase by 22 million between 1961 to 1976. But till 1976 the scope for net absorption of agricultural population in the non-agricultural sector is nil. Moreover, with the increase in the number of small cultivators due to the operation of the laws of inheritence and land reform measures there will be a tendency towards self-cultivation. This will aggravate the problem of hired labour.

Fortunately the process of technological change of the Indian agriculture is boosting up the demand for

hired labour. But this immediate favourable impact of new.technology on the employment front of agricultural sector will deminish as and when labour-saving devices, i.e., mechanisation, will be introduced. Therefore, additional employment opportunities must have to be created withen the agricultural sector.

The crux of the land problem in India is the concentration of ~~xx~~ land in the hands of a minority of landlords who are not actual tillers of soil. The system of land ~~r~~eform has abolished the functionless intermediaries in all the States. But there is wide gap between the legislative provisions and ~~thxrx~~ their implementation due to both legislative loopholes and administrative inefficiency and corruption. There is still excessive cocentration of ownership in land under the pretext of self-cultivation, informal tenancy arrangements and vast mass of landless labourers.

To overcome the problem of concentration of land ~~xxx~~ in a ~~g~~ few ~~h~~ hands ceilings should be imposed on land holdings. Such ceilings should always be family-based and should more or less correspond the loca-l optimum size of the farm. The excess land is to be redistributed, first, among the marginally small farms (i.e., between farms of 2.50 acre to less than 5 acre size) so that they may become viable units of cultivation. The remaining ~~xx~~ surplus land and small uneconomic farms should be utilised by forming cooperative farms. The non-working cultivators as a class must be totally abolished. Our goal should be the establishment of a ~~xig~~ single tenurial system directly under the control ~~ofthe~~ of the State Government enjoying permanent heritable and transferable rights.

In conclusion it may be stated that whatever ceiling we may propose and impose, ultimately by virtue of the operation of the law of succession (which allows every child to inherit equally fathers' landed property) size of the

individual farms will become uneconomic ~~xk~~ withen a generation or two. ~~Xmmxxx~~ To avoid such a consequence either the law of succession is to be suitably modified so that further subdivision of land is not allowed or as the farms become uneconomic they are to be brought under the purview of cooperative farming. If none of the alternatives is followed, efficiency in agriculture will hamper as the farms gradually become more and more uneconomic. It is obvious that left to ~~ix~~ itself, size of the farm will depend upon the objective conditions as determined by the growth of the rural population and "its disposition between the agricultural and non-agricultural sectors".

However, if a suitable land policy can be chalked out and followed them other difficulties standing on the way of technological change will not be insurmountable. We have already recommended to open large number of service cooperatives throughout the country for providing common supplies, services, expert consultancy and extension service. Properly organised, such service cooperatives may do away with many of the difficulties. Another important requirement is the development of superior management cadre in agricultural front. It is the quality of management that makes all the difference between success and failure.

Considering the heterogeneity of soil, climate, system of irrigation, availability of resources etc. in a vast country like India, there should be satisfactory arrangement of farm planning at the micro-level. The objective of such farm planning should be to maximise net cash income per unit of land input which is fixed and scarce. For the implementation of farm planning block development offices must be made ~~m~~ well equipped with soil testing laboratories, agronomists and able extension officers. It should be the earnest endeavour of these offices to find out the right type of resources and their right

combination that will suit the local situation. It is hoped that persuing such a policy technological change of desired level can be brought upon successfully in our agriculture.