

II AGRICULTURAL PRODUCTION

9. Agricultural production in 1968-69 did not maintain the tempo of growth registered in 1967-68 on account of unfavourable weather conditions in many parts of the country. Foodgrains production which had increased by 28.2 per cent to 95.1 million tonnes in 1967-68 was slightly lower at 94.0 million tonnes in 1968-69. And commercial crops, with the exception of sugarcane, were affected even more. The output of cotton was slightly lower and the fall in the output of oilseeds was about 13 per cent. The jute crop was particularly poor. Altogether, the index of agricultural production for 1968-69 stood at 158.7 as compared to 161 for 1967-68.

10. The decline in foodgrains production in 1968-69 was due to a fall in the production of coarse grains and pulses. Production of both rice and wheat was higher than in the previous year. Production of rice rose between the two years by over 2 million tonnes to 39.8 million tonnes and surpassed the earlier high level of 39.3 million tonnes in 1964-65. Production of wheat also increased by over 2 million tonnes and maintained the upward trend noticed since 1966-67. The year 1968-69 marked a decisive confirmation of the revolution in wheat cultivation as wheat output rose, despite not too favourable weather conditions, to 18.7 million tonnes, from the annual average of 11 million tonnes for the five years previous to 1965-66. On the other hand, the output of coarse cereals declined by 3.6 million tonnes, the principal sufferers being barley, bajra and maize. Similarly, the output of pulses also was lower by a little less than two million tonnes, entirely because of an equivalent decline in the output of gram. The output of gram in 1968-69, 4.3 million tonnes, was about the same as the output in the drought year of 1965-66.

TABLE II
Production of Foodgrains

(Million tonnes)

	1964-65	1965-66	1966-67	1967-68	1968-69
1	2	3	4	5	6
Cereals	76.9	62.2	65.9	83.0	83.6
of which :					
Rice	39.3	30.7	30.4	37.6	39.8
Wheat	12.3	10.4	11.4	16.5	18.7
Coarse grains	25.4	21.2	24.1	28.8	25.2
Pulses	12.4	9.8	8.3	12.1	10.4
of which :					
Gram	5.8	4.2	3.6	6.0	4.3
Total Foodgrains	89.4	72.0	74.2	95.1	94.0

NOTE :— Figures are subject to rounding errors.

11. The situation in respect of commercial crops is similar to that of millets and pulses. The output of jute was particularly low. The output of oilseeds also fell sharply, by 1.4 million tonnes, principally because of a shortfall in the production of groundnuts. The output of tobacco was lower than in 1967-68. Cotton production was marginally lower. Sugarcane was the only important exception, its output having gone up by over 2 million tonnes to the high levels of 1964-65 and 1965-66. The output of tea was higher by about 5 per cent.

TABLE III
*Production of Commercial Crops**

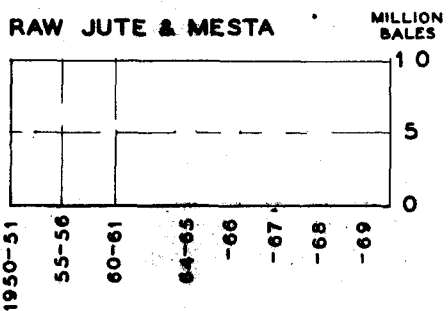
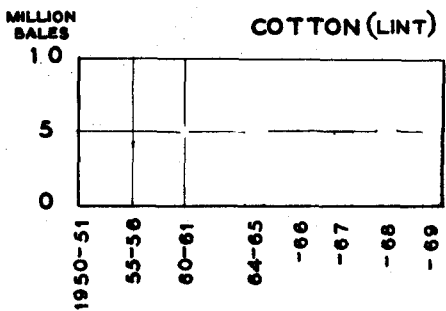
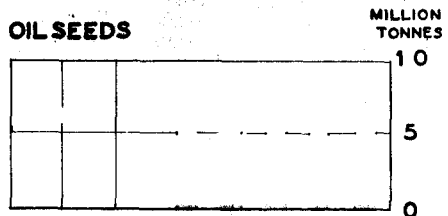
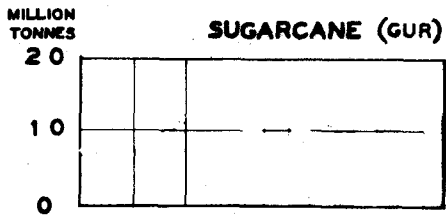
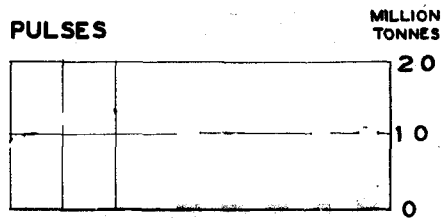
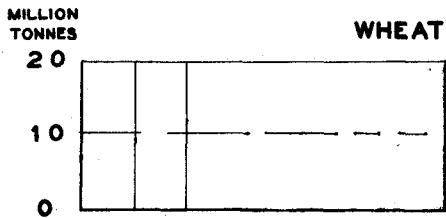
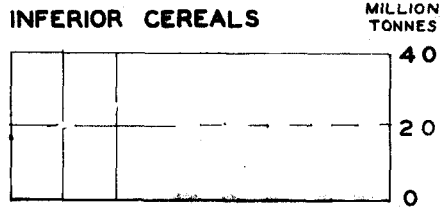
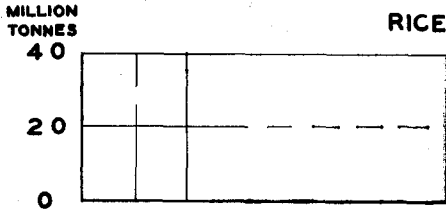
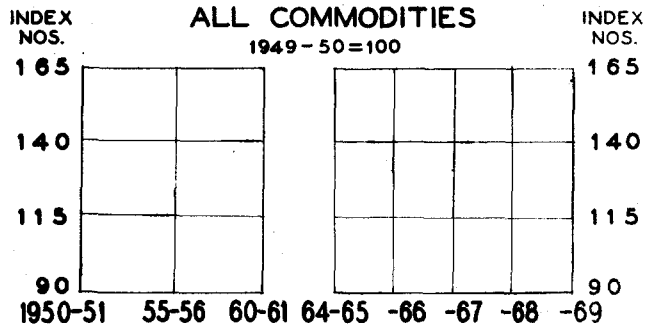
	Unit	1965-66	1966-67	1967-68	1968-69	1969-70**
1	2	3	4	5	6	7
Oilseeds	Mn. tonnes	8.2	8.4	10.4	9.0	10.0
of which :						
Groundnuts	Do.	4.2	4.4	5.7	4.5	5.0
Rapeseed and Mustard	Do.	1.3	1.2	1.6	1.6	1.6
Jute and Mesta	Mn. bales	5.8	6.6	7.6	4.0	7.0
Cotton (Lint)	Do.	4.8	5.0	5.5	5.3	5.8
Tea	Mn. kgs.	366	376	385	402	395
Coffee	'000 tonnes	63.9	78.3	57.0	73.0	69.0
Sugarcane (In terms of gur)	Mn. tonnes	12.1	9.5	9.8	12.0	12.5
Tobacco	'000 tonnes	298]	353	369	347	364

*Relates to crop years.

**Trade Estimates.

Factors Affecting Performance in 1968-69

12. The decline in agricultural output in 1968-69 must be seen against the background of a significant failure of rains in different parts of the country. Parts of Andhra Pradesh, Tamil Nadu and Gujarat experienced bad weather; Rajasthan experienced something like a drought. Crops grown in these areas which depend principally on rain suffered considerably. This is true of coarse grains, oilseeds, cotton and pulses. Even the output of maize and jowar which had increased considerably during 1967-68 due to the increased use of hybrid seed and HYV seed, declined in 1968-69 due to bad weather conditions. On the other hand, in areas where weather conditions were not so unfavourable the new strategy continued to be effective and output increased. The remarkable harvest of wheat and the improved performance of rice would support the view that the new agricultural strategy is most appropriate in those areas where the vagaries of monsoon can be mitigated by irrigation.



13. A somewhat different strategy has to be evolved if areas dependent on rain alone are to increase their agricultural productivity. Almost all the coarse grains are dependent on rains; similarly the cultivation of most cotton and all oilseeds and pulses is rainfed. Therefore, if their output is to increase, new methods of dry farming have to be evolved in addition to developing new high yielding strains. The urgency of this need can be seen from the fact that the growth in the output of these commodities has not been very large. The output of pulses, in particular, has remained more or less stagnant over the past two decades. It is necessary also to avoid the large fluctuation in output. With the increase in the supplies of foodgrains the question of providing proper dietary supplements becomes important and the growth of production of pulses is linked to this in a country like India, which is in effect predominantly vegetarian.

14. Part of the lower outturn in 1968-69 was due to a decline in the areas under crops like jute, gram and oilseeds. A diversion in favour of competing crops like rice, wheat and jowar seems to have taken place on account of the possibilities of larger cash incomes from the latter due to higher productivity and better prices. To some extent the area sown seems to have declined due to natural factors.

15. The close link between agriculture and industry was convincingly demonstrated during the years of severe drought. In the interests of industrial prosperity such reductions in cultivated area under commercial crops should be avoided; alternatively, productivity should be so raised as to minimise the impact of such reductions. Similarly, if there is a decline in the production of pulses due to smaller planting, the protein deficiency in the diet of a growing population will increase. Policy measures have to be taken and more research effort has to be made in order to ensure increased production of these commodities.

16. The prospects of agricultural output for 1969-70 are much better. The kharif harvest of foodgrains promises to be better than last year because of the generally favourable weather and rainfall conditions almost all over the country and the spread of the new technology; and if the rabi crop maintains its past trend of growth, as is likely in view of delayed but extensive winter rains, total food-grain production will be sizably higher than last year. Anticipations with regard to commercial crops are also much better. The sugarcane crop is expected to be somewhat larger than last year. The jute crop has fully recovered from the last year's low level. Groundnut output also is estimated to be larger than last year. According to current trade estimates the cotton crop also will be higher than in 1968-69, though not as high as was expected earlier.

Progress of the New Strategy

17. Even though the words 'green revolution' have gained a wide usage it does not mean that the transfer of improved technology

to the farms has yet reached desirable proportions. A great deal has, however, been achieved so far. The area under HYV seed, which had risen from 1.89 million hectares in 1966-67 to 6.07 million hectares in 1967-68 rose further to 9.3 million hectares in 1968-69. The target for 1969-70 is 10.9 million hectares. The area under multiple cropping is estimated to have increased from 3 million hectares in 1967-68 to 6 million hectares in 1968-69 and is targetted to go up to about 8 million hectares in 1969-70. 290,000 pumpsets were installed in 1968-69 and the total number of sets working rose to 1.746 million. The number of tubewells and filter points increased by 68,000 in 1968-69. In 1969-70 the increase is expected to be larger than in the last year. The additional area benefiting from minor irrigation was 1.22 million hectares in 1967-68 and is estimated to be 1.35 million hectares in 1968-69. The target for 1969-70 is 1.4 million hectares. The area benefiting from plant protection measures has risen from 16.5 million hectares in 1965-66 to 40 million hectares in 1968-69. About 20,000 tractors will be produced during the year; and this will be supplemented by imports of about 35,000 units. Other agricultural machinery like power tillers, threshers and harvesters is also being used more and more.

18. The production of improved seeds, especially HYV seeds, is being increased through Central and State Government farms and registered seed growers. In 1967-68 and 1968-69 the shortage of foundation and certified seeds was overcome and some surpluses were available. Some quantities of HYV seeds have been exported to Ceylon, Malaysia, Iran, Burma and other countries.

19. Nevertheless, evaluation studies indicate that the proportion of cultivators using the new seed is little more than half even in wheat where the progress is greatest. In rice and coarse grains it is much less. In rice the proper HYV seed has yet to be introduced on a large scale, though a beginning has been made recently with the release of two varieties named Jaya and Padma. To some extent the emphasis has been on developing and using short duration varieties which make multiple cropping possible. In coarse grains, demonstrations of the higher potential of the new seed have yet to be made on a significant scale.

20. Also the knowledge and use of the package of practices which constitute the new strategy does not seem to be very common and a qualitative breakthrough in technology is still to be achieved. The dosages of fertiliser used are usually much smaller than those recommended. Seed treatment is not as common as it should be. The use of pesticides and intercultural practices still has to go a long way. Therefore, there is a good deal of scope for increasing productivity through the application of the entire package of practices associated with the new strategy. In addition, of course, the new strategy needs to be extended to a still wider area.

The Use of Chemical Fertilizer

21. One of the most important inputs in the new agricultural strategy is chemical fertilizer. With the development of fertilizer-responsive varieties of seed the demand for fertilizer began to

increase rapidly. The demand for nutrients increased by 40 per cent in each of the years, 1966-67 and 1967-68. In 1968-69 however the growth slowed down to about 15 per cent, though the expectation was that a higher rate of growth would be maintained.

TABLE IV
Consumption of Chemical Fertilizers

(Thousand tonnes of nutrients)

	Consumption in			Anticipated consumption in 1968-69	Target 1969-70
	1965-66	1966-67	1967-68		
	1	2	3	4	5
Nitrogenous (N)	575	738	1035	1208	1700
Phosphatic (P ₂ O ₅)	132	249	335	382	600
Potassic (K ₂ O)	77	114	170	170	300

The demand for fertilizer has been met by imports and domestic production which is increasing rapidly. The production of nitrogenous fertilizer rose from 232,000 tonnes in 1965-66 to 367,000 tonnes in 1967-68 and 541,000 tonnes in 1968-69. It is expected to go up to about 850,000 tonnes in 1969-70. Similarly, the production of phosphatic fertilizer has risen from 123,000 tonnes in 1965-66 to 210,000 tonnes in 1968-69. It is expected to go up to 310,000 tonnes during 1969-70. Imports of nitrogenous fertilizers rose from 309,000 tonnes in 1965-66 to 868,000 tonnes in 1967-68 and remained at more or less the same level in 1968-69. For the time being, in view of the slower increase in consumption than was envisaged last year, there are surplus stocks of fertilizers in the country which has made it necessary to curtail imports. But in view of the increasing need and scope for the consumption of fertilizers in the coming years and the delay in setting up domestic capacity, there will be need to import sizable quantities of fertilizers over the fourth plan period taken as a whole. The establishment of new capacity for fertilizer production in the country thus remains a matter of high priority.

22. Several factors have contributed to a slowing down of the growth of consumption of fertilisers. Firstly, the unfavourable weather conditions in States like Tamil Nadu and Gujarat affected consumption adversely. Secondly, the system of fertilizer distribution varied from State to State and a number of restrictive practices adopted by the States prevented the free movement of fertilizers from factories to consuming points. Lastly, the use of larger quantities of inputs meant a larger investment outlay which the smaller farmers, in particular, found difficult to undertake. To take care of these two problems, trade in fertilizers has been delicensed so that there is free movement and anyone can trade in them.

This should make for a more adequate and timely availability. Secondly, the nationalised banks will be providing more resources to meet the credit needs of the smaller farmers. This should also encourage offtake.

Problems of Wider Acceptance

23. Studies on the acceptance of the new strategy indicate that further progress of the green revolution depends upon two or three important steps being taken. Firstly, the timely and adequate availability of water is an important consideration in greater acceptance of the new strategy. Experience shows that this requirement is fulfilled to the largest extent by minor irrigation, either independently or as a supplement to canal irrigation. Therefore the present emphasis on minor irrigation should be continued and extended.

24. Secondly, credit is a very important requirement for the spread of the new strategy, particularly among those who are less well-to-do. The expenditure that has to be incurred on irrigation, fertilizer and interculture etc., is heavy and normally beyond the capacity of the farmer, particularly the smaller one. There is good reason to believe that the use of fertilizer in dosages less than the recommended ones is partly due to a lack of capacity to undertake such expenditure. Therefore, unless an adequate credit system is set up the new strategy will not progress satisfactorily; and herein lies an important challenge and opportunity for the nationalised banks.

25. Finally, as investment expenditure increases the risk taken also increases. The smaller the farmer the greater is the burden of the additional risk, particularly if he has borrowed funds for investment. The existence of support prices and procurement prices have, fortunately, reduced greatly the risk of price fluctuations. There is also a need for minimising the risk of crop failure due to various natural factors like drought, floods, pests, etc.

26. With the increasing progress of the new technology certain problems have also begun to emerge and a satisfactory solution to these has to be found if agricultural growth is to continue further. Till now the advance has taken place in relatively small areas, such as Punjab and Haryana, and parts of U.P., Bihar, Andhra Pradesh and Tamil Nadu, i.e., in areas where reasonably adequate irrigation facilities are available. This has led to islands of prosperity in a sea of rural poverty. If such regional disparities are not to widen, efforts will have to be made to see that the new strategy takes root quickly in the other areas as well, either through the development of adequate water facilities or through the development and application of dry farming techniques.

27. As the new strategy requires sizable expenditures on inputs, to ensure a wide diffusion of the new technology, every farmer with a worthwhile investment proposition should have the necessary facilities. This implies not only the provision of more adequate

extension facilities and supply of items like fertilizer, pesticides etc. but also greater availability of credit. Care will also have to be taken to see that the incentive to undertake larger investment is not affected in any way. The tenant-owner relationship, defined in the broadest manner, should be so regulated that a proper share of any increase due to larger investment accrues to the person who cultivates the land. Without such a regulation the new strategy may not percolate beyond owner cultivators.

28. The new technology also leads to an increased demand for labour because of the increase in the number of agricultural operations needed. This has naturally led to a demand for higher wages and also to a certain deterioration in the relations between landlords and agricultural labourers. Attempts are therefore being made in many parts of the country to use more machinery in substitution for labour. Great care will have to be taken to ensure that while agricultural wages must improve with growing prosperity, the demand for higher wages will not lead to an uneconomic use of capital and thereby to a diminution of employment opportunities.

Food Policy

29. The policy of providing adequate incentives to farmers has continued during this year. On the advice of the Agricultural Prices Commission procurement and support prices for various commodities have been raised steadily over the years. In 1968-69 procurement prices for Kharif crops were by and large maintained at the high levels fixed during 1967-68. For the Rabi crops, however, the procurement prices of all varieties of wheat other than indigenous red wheat, have been fixed at Rs. 76 per quintal for all States. In the previous season the prices were Rs. 76 per quintal for common white and Mexican variety and Rs. 81 for superior varieties of wheat. The slight adjustment was made on account of the easier position of wheat supplies.

30. The system of public distribution set up to contain inflationary tendencies and to ensure equitable distribution of available supplies of foodgrains was continued during 1968-69 and the current year. With the improvement in supplies and the consequential effect on prices the demands on the public distribution system seem to have been less in 1969 as compared to the previous year. Total foodgrains distributed in 1969 amounted to only 9.6 million tonnes, a third less than the level of distribution in 1966.

TABLE V
Public Distribution of Foodgrains

		(Million tonnes)				
		1965	1966	1967	1968	1969
1	2	3	4	5	6	
Rice	3.6	4.1	3.0	3.6	3.6	
Wheat	5.9	8.2	7.4	5.7	5.2	
Coarse grains	0.6	1.8	2.8	1.2	0.8	
Total	10.1	14.1	13.2	10.5	9.6	

31. Supplies for the public distribution system and for buffer stocks have been secured through internal procurement as well as imports. The policy of procurement by the Food Corporation of India and other agencies was continued during this year. The volume of foodgrains procured in 1968 amounted to 6.8 million tonnes as against 4.5 million tonnes in 1967. In 1969, however, it was 6.1 million tonnes. The functions of procuring, moving, storing and handling of foodgrains at the ports and in the interior have been handed over to the Food Corporation of India by the Government since March 1969. The Corporation functions in all States except Maharashtra but its role and operation vary from State to State. Its activities are however expanding; it purchased/handled 7.9 million tonnes of foodgrains worth Rs. 651 crores in 1968-69 and is expected to purchase/handle 10 million tonnes valued at Rs. 863 crores in 1969-70.

32. The quantities of foodgrains imported has declined further in 1969. From a high level of 10.4 million tonnes in 1966 it has come down to 3.9 million tonnes in 1969. The policy of building up a buffer stock was however maintained and total stocks with the Central and State Governments amounted to 4.2 million tonnes at the end of 1969 as against 3.8 million tonnes last year. This increase in stocks occurred despite lower imports mainly because of lower offtake from the public distribution system. It is expected that at the end of the current fiscal year total stocks with the Central and State Governments would be around 4.9 million tonnes.

33. With the improvement in the food position restrictions were removed on the movement of foodgrains in a large part of the country. The pattern of food zones was reviewed at a meeting of Chief Ministers held in New Delhi in April 1969 and the country was re-formed into six wheat zones. The northern wheat zone was enlarged. The free movement of coarse grains and gram was generally permitted with certain exceptions.

PATTERN OF INDUSTRIAL PRODUCTION

1960=100

