II AGRICULTURAL PRODUCTION

14. The last two years have witnessed a fairly high rate of expansion in agricultural production. Following the recovery of production in 1967-68 from the abnormally low level of the two drought years 1965-66 and 1966-67, there was a marginal reduction in output during 1968-69. However, 1969-70 witnessed an impressive increase of 6·5 per cent in the overall index of agricultural production. According to latest indications, the increase in 1970-71 is also expected to be highly satisfactory.

Trends in Production

15. A large part of the improved performance is due to the significant increase that has taken place in foodgrains production, which rose from the low level of 74.2 million tonnes in 1966-67 to 95.1 million tonnes in 1967-68. In 1968-69, it was lower by about a million tonnes. In the following year, however, aggregate foodgrains output once more rose to 99.5 million tonnes and is expected to be around 105 to 106 million tonnes in 1970-71.

TABLE II

Production of Foodgrains

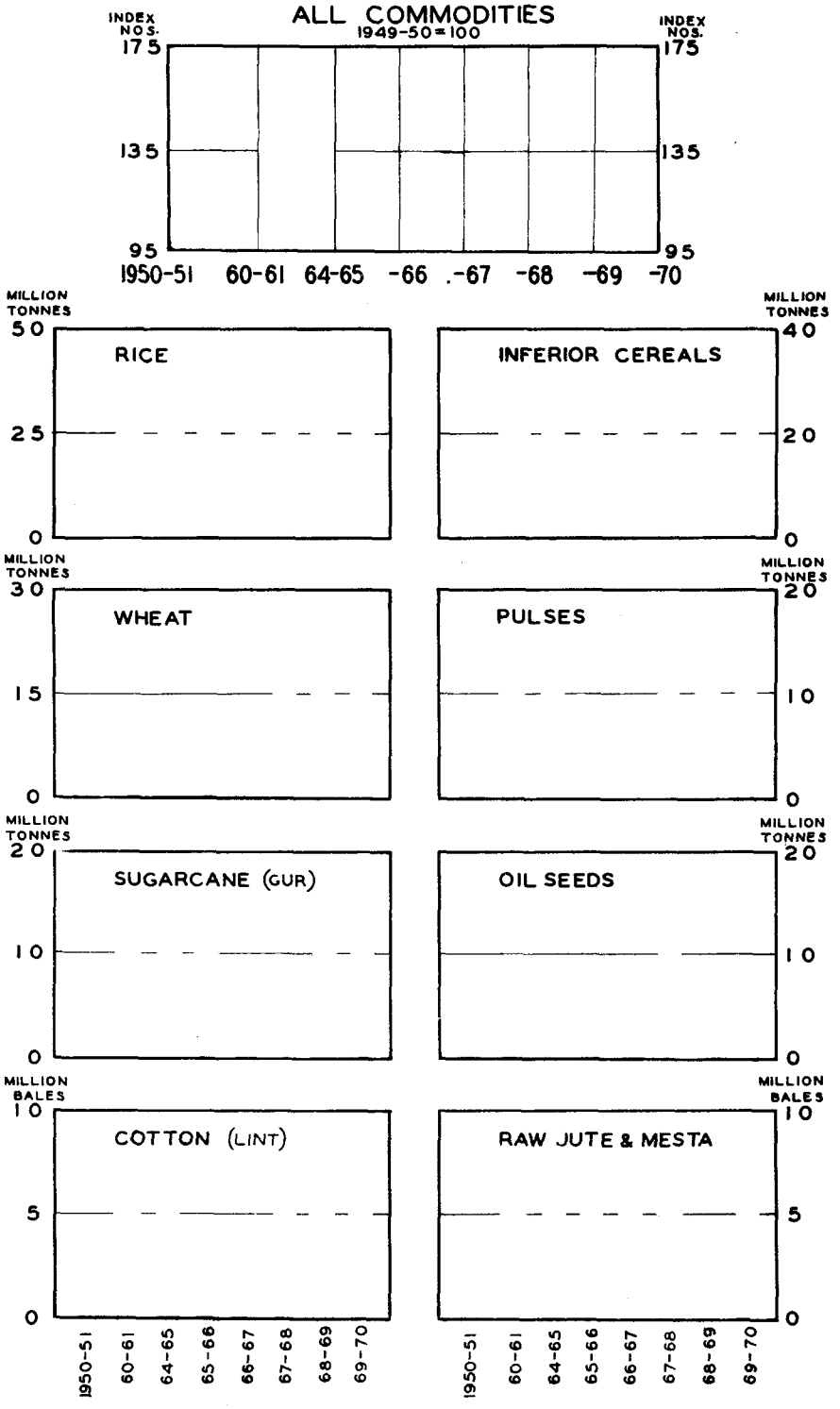
(Million tonnes)

(1)	1965-66 (2)	1966-67 (3)	1967-68 (4)	1968-69 (5)	1969-70 (6)
Cereals	62·4	65·9	83·0	83·6	87·8
of which :					
Rice	30·6	30·4	37·6	39·8	40·4
Wheat	10·4	11·4	16·5	18·7	20·1
Coarse grains	21·4	24·1	28·8	25·2	27·3
Pulses	9·9	8·3	12·1	10·4	11·7
of which :					
Gram	4·2	3·6	6·0	4.3	5·5
Total Foodgrains	*72.3*	*74·2*	*95·1*	*94·0*	*99·5*

Note: Figures are subject to errors of rounding.

16. The increase in production in 1969-70 over that in the previous year was spread over almost all the grains. The output of rice exceeded the 40 million tonnes mark while wheat crossed the level of 20 million tonnes. The production of pulses exceeded the previous year's output by nearly 1.3 million tonnes, nearly the whole of which was due to gram.

AGRICULTURAL PRODUCTION



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17. The increase in foodgrains output in 1970-71 has been spread over both the kharif and rabi seasons. Rainfall during the kharif season has been satisfactory practically everywhere, with the result that the production of kharif foodgrains is expected to be higher than last year by about 5 million tonnes; the output of rice is likely to be higher by 2.5 to 3 million tonnes. Although winter rains were again delayed this year, the production of rabi foodgrains is expected to be around 1 to 1.5 million tonnes higher than last year, the rise being mostly accounted for by wheat. The output of pulses, both kharif and rabi, is expected to be slightly higher than in the previous year.

18. The output of commercial crops does not show any clear trend of growth. While in 1967-68 there was a general improvement, in 1968-69 oilseeds, jute and cotton registered sharp declines. Sugar and coffee were the only exceptions. The situation in 1969-70, however, was satisfactory. The output of oilseeds and sugarcane rose sizeably; and the production of raw jute and mesta almost doubled from the extremely low level of the previous year.

TABLE III

Production of Commercial Crops†

	Unit	1965-66	1966-67	1967-68	1968-69	1969-70
Major Oilseeds*	Mn. tonnes	6·4	6·4	8·3	6·8	7·6
of which :						
Groundnuts .	Mn. tonnes	4·3	4·4	5·7	4·6	5·1
Rapeseed and Mustard	Mn. tonnes	1·3	1·2	1·6	1·3	1·5
Jute and Mesta	Mn. bales	5·8	6·6	7·6	3·8	6·8
Cotton (lint)	Mn. bales	4·6	5·0	5·5	5·1	5·2
Tea . .	Mn. Kgs.	366	376	385	402	396
Coffee . .	'000 tonnes	63·9	78·5	57·3	73·5‡	63·5‡
Sugarcane (in terms of Gur)	. Mn. tonnes	12·8	9·5	9·8	12·8	13·4
Tobacco .	'000 tonnes	293	353	369	361	338

†Relates to crop years.

*Includes groundnuts, rapeseed and mustard, sesamum, linseed and castorseed.

‡ Estimates.

19. In 1970-71, however, the production of commercial crops presents a mixed picture. In oilseeds, particularly groundnuts, a rise in output is expected, even though, in terms of the country's total requirements, supply will be still short. The jute and cotton crops will be lower than, while the sugarcane crop is expected to be at about the same level as, last year's. The output of tea will be

only slightly higher: on the other hand, the coffee crop this year has not only recovered from the low level of 1969-70, but will be considerably higher than the peak of 78,500 tonnes reached in 1966-67.

Progress of the New Strategy

20. Favourable seasonal conditions have no doubt contributed to the impressive growth of production in the last two years. However, not all of this can be explained by weather. To a large extent, the additional production is the result of sustained growth of irrigation, the spread of the new technology and the expansion of fertilizers, pesticides and better equipment. The cultivation of high-yielding varieties of seeds of food crops has now taken firm root in many parts of the country and is spreading fast in other areas. The area under high-yielding varieties was about 11.4 million hectares in 1969-70 as compared with 9.3 million hectares in the previous year. As against the target of coverage for 1970-71 of 15.05 million hectares, of which paddy would account for 5.66 million and wheat 5.88 million hectares, the actual achievement will be more than 14 million hectares.

21. Further developments in our search for better varieties have occurred during the year under review. A new wheat variety, *viz.* HD-1941, a triple dwarf capable of good response to high doses of fertilizers has recently been recommended for public release. There has also been some increase in the area under the new varieties of rice, *viz.*, Jaya, Padma, Hamsa, Pankaj, Jagannath and Sabarmati. Intensive efforts continue to evolve high yielding varieties of rice suitable to the diverse agro-climatic conditions in the country and at the same time comparable in performance to that of some of the now popular varieties of wheat. Rice being the most important cereal crop, success in this direction is crucial.

22. With regard to millets, while the spread of hybrid varieties of bajra is encouraging, progress has been halting for maize and jowar. The existing hybrid varieties of jowar are not sufficiently disease-resistant and therefore entail heavy expenditure on plant protection measures. In the case of hybrid maize, the existing varieties are of a relatively long duration and do not permit the sowing of a second crop.

23. The area under multiple cropping increased by 1.89 million hectares in 1969-70, and another 1.51 million hectares may be added during 1970-71. The number of tubewells and filter points increased by 74,500 in 1968-69, and by another 90,000 in 1969-70. During the same year, the number of pump sets is estimated to have increased by over 300,000. Higher achievements are expected in 1970-71. The additional area benefiting from minor irrigation was around 1.4 million hectares in both 1968-69 and 1969-70, but for 1970-71 it would be higher at 1.5 million hectares. The area covered by plant protection measures has risen from 16·6 million hectares in 1965-66 to about 35 million hectares in 1969-70. The production of tractors in 1970 was of the order of 20,500 as against 18,000 in 1969; their number is being supplemented through imports. Imports of power tillers, disc harrows, etc., are also being arranged in order to meet the growing demand.

24. Further advances have been made with regard to the indigenous production and supply of quality seeds of the higher yielding varieties. The National Seeds Corporation has, in this connection, expanded its activities considerably in supplying both foundation seeds and seed for crop production. The Corporation has continued the certification of seeds in most of the States, and is also helping the indigenous industry to develop and manufacture seed-processing equipment such as seed cleaners, driers, elevators, moisture meters, etc. The Tarai Seeds Development Corporation has started to supplement the activities of the NSC.

25. Agro-Industries Corporations have been set up in all the States with a view to making available essential inputs and popularising mechanised farming. The corporations are entrusted with the sale of tractors and other agricultural machinery on easy terms, and the organisation of hiring and servicing centres. There is at present considerable unsatisfied demand for agricultural machinery, particularly tractors, and measures such as the one above will help in extracting the maximum possible benefit from the existing equipment.

26. Further progress has been made in the institutionalisation of agricultural credit during the year. The quantum of credit supplied by the co-operatives during 1969-70 is estimated to have risen to Rs. 632 crores from Rs. 615 crores in the previous year. The Central and State Governments, the Life Insurance Corporation, the Reserve Bank of India and the State Bank of India continued to participate in debenture floatations of the cooperatives. The Agricultural Finance Corporation has also stepped up its assistance for minor irrigation, rural electrification and other farm improvement schemes. In the wake of the nationalisation of the leading commercial banks the participation of commercial banks in agricultural financing registered a spectacular increase during the year under review: total advances of public sector banks to agriculture stood at Rs. 344 crores at the end of December, 1970, as against Rs. 160 crores at the end of June, 1969.

Dry Farming

27. Since the new strategy was designed with the immediate objective of rapid growth, the programme was, by and large, confined to areas possessing good agricultural potential which in fact meant the availability of adequate water. During the second phase of agricultural development which has just started, an intensive programme has been launched to develop and extend techniques and measures which are capable of benefiting dry farmed regions. Areas with an annual rainfall ranging between 375 m.m. and 1,125 m.m. come under the operational scope of the programme. The development efforts under this programme are expected to involve the adoption of soil and moisture conservation practices, the cultivation of drought-resistant and short-duration crops, and new techniques of fertilizer application, etc. A beginning has been made in 1970-71 by starting 9 pilot projects, each of which will ultimately cover about 8,000 hectares of area, to serve as demonstration-*cum*-training centres.

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28. To improve the economic conditions of the small farmers, and to spread the benefits of the new agricultural technology over large areas, a special scheme has been introduced. Good progress has been made during 1970-71 in setting up Small Farmers' Development Agencies in selected districts, the main functions of the Agencies being to identify the problems of small farmers in each area, prepare appropriate programmes, help to ensure availability of inputs, services and credit, and to evaluate the progress from time to time. The Agencies are also expected to give assistance to small farmers in respect of specialised services such as land levelling, hiring of farm machinery, and marketing; they may also draw up model plans for investment and production activities to be undertaken by small farmers operating under different sets of conditions. As regards marginal farmers and agricultural labourers, it is proposed to provide supplementay occupations and other employment opportunities. This programme would, as far as possible, be market-based (near towns or other areas of demand) so that there is scope for activities such as poultry, dairy farming and market gardening.

The use of Chemical Fertilizers

29. The consumption of fertilizers continues to increase, though the rate of growth is currently below expectations. Both in 1968-69 and 1969-70, the rise has been of the order of 15 per cent only as compared to 40 per cent in each of the two previous years. In 1969-70, the lower rate of growth was due to unfavourable weather in certain parts of the country, as well as shortcomings in the distribution system. The latter are being attended to. Despite good rainfall over practically the whole of the country, fertilizer consumption has not picked up substantially in the year under review. The basic reasons for the failure of consumption to increase as fast as expected, namely, application of dosages below the recommended ones and the slow rate of absorption by the relatively smaller-sized holdings, continue.

TABLE IV

Consumption of Chemical Fertilizers

(Thousand tonnes of nutrients)

	1965-66	1966-67	1967-68	1968-69	1969-70	1970-71
Nitrogenous (N) .	575	738	1,035	1,208	1,360	1,425
Phosphatic ($P_2 O_5$)	132	249	335	382	420	461
Potassic (K_2O) .	77	114	170	170	209	226

30. The extent of plant protection measures also, affects the growth of consumption of fertilizers as without them the farmers' investment, both money and labour, may be rendered infructuous. Progress in this direction has been rather slow, the expected coverage in 1970-71 being 42.3 million hectares (gross) as against a target of 80 million hectares set for the end of the Fourth Plan.

31. The intensity of fertilizer application (nutrients per hectare of cropped area) has risen since 1966-67 by over 60 per cent, but the rate of increase has been rather uneven as between different parts of the country. In the northern region, the rate of growth has been phenomenal, from 5.84 Kg. per hectare in 1966-67 to 15.04 Kg. in 1969-70, i.e., by as much as 158 per cent. This high rate of increase is obviously due to the growing popularity of the high-yielding varieties of wheat and maize, and the existence of irrigation facilities. In the non-wheat growing States, the increase has been much less, being of the order of about 35 per cent in the western and southern zones, and only 15 per cent in the eastern zone. Slow progress in the western zone can be explained in terms of poor irrigation facilities, while the lag in the eastern and southern zones must be partly explained by the preponderance of small holdings. Since plantations account for a substantial part of the fertilizer used, it would appear that, so far as the eastern zone is concerned, there has not been much progress in regard to field crops.

Food Policy

32. With continuing good harvests, the pressure on the public distribution system has eased further during the year. However, the Government intends to continue the public distribution programme with a view to containing inflationary pressures, as well as to ensure a measure of protection to the vulnerable sections of the population. The total volume of foodgrains distributed in 1970 was 600,000 tonnes less than the amount distributed during 1969. There have, however, been changes in the pattern of distribution. The quantity of rice sold through public channels has declined, while that of wheat has risen. The quantity of coarse grains distributed has also declined from 2.8 million tonnes in 1967 to less than half a million tonnes in 1970.

TABLE V

Public Distribution of Foodgrains

(Million Tonnes)

	1965	1966	1967	1968	1969	1970
	1	2	3	4	5	6
Rice . . .	3·6	4·1	3·0	3·6	3·5	3·1
Wheat .	5·9	8·1	7·4	5·7	5·2	5·4
Other grains . .	0·6	1·8	2·8	1·2	0·8	0·4
Total . .	**10·1**	**14·1**	**13·2**	**10·4**	**9·5**	**8·9**

NOTE : Totals may not tally due to rounding off.

33. The policy of building up a buffer stock of adequate size was continued during the period under review. The total size of the public stock of foodgrains (with the Centre and the States) at the end of March 1971 at 5.8 million tonnes was larger by one and a half

million tonnes as compared to the previous year. The volume of foodgrains procured during 1970-71 amounted to 6·9 million tonnes as against 6·1 million tonnes in 1969-70. This improvement in procurement was solely due to larger purchases of wheat from out of the larger wheat crop. Purchases of rice in 1970-71, on the other hand, were below the level attained in the previous year, while the procurement of coarse grains, even though higher than in 1969-70, was still of a relatively small magnitude. The Government's food procurement operations continued to be handled by the Food Corporation of India whose activities now extend almost throughout the country.

34. With increasing domestic production reliance on imports of food has tended to diminish. Imports of foodgrains declined from 3·87 million tonnes in 1969 to 3·63 million tonnes in 1970. During 1971 imports are likely to be even less.

35. The restrictions on the internal movement of foodgrains have been progressively relaxed with the improvement in domestic availability. The movement of wheat and wheat products was made free throughout the country except in the statutorily rationed areas of Bombay, Calcutta and the Asansol-Durgapur industrial complex with effect from April 1970.

Price Policy for Foodgrains

36. The continued success of the new agricultural strategy depends both on the inputs used and the incentives provided to farmers in the form of remunerative prices for their produce. Procurement prices have, therefore, been kept steady, or have tended to rise slightly. For 1969-70, a uniform procurement price of Rs. 52 per quintal was fixed for each of the coarse grains as against a price range of Rs. 47 to Rs. 56 per quintal in the previous year; in the majority of cases, this implied a significant increase in price. In the case of rice, the higher prices allowed in 1968-69 have been continued; procurement prices for wheat too have been generally maintained since that year. The procurement price of coarse grains during the kharif of 1970-71 was raised by Rs. 3 to Rs. 55 per quintal; rice/paddy prices have also been raised in certain States.

Problems and Prospects

37. In spite of real advances in farm technology, and its growing acceptance among farmers, the influence of seasonal conditions on Indian agriculture continues to be large. Variations in production from year to year are to be expected and these will be particularly large for rainfed crops. The output of bajra, which is mostly cultivated in unirrigated tracts, dropped to 3·8 million tonnes in 1968-69 due to poor rains and rose to a record 5·3 million tonnes the very next year when climatic conditions were more favourable. The commercial crops (with the exception of sugarcane), being mostly rainfed, are even more prone to fluctuations. The output of jute, for instance, was only 2·9 million bales in 1968-69 mainly due to unfavourable weather at the time of sowing (and floods in Assam and North Bengal subsequently) but in 1969-70 production went up to

5.6 million bales. There have been similar fluctuations, though of lesser magnitude, in other commercial crops such as oilseeds and cotton. In contrast, the output of crops like wheat and sugarcane, where a high proportion of the total area under the crop is irrigated, is characterised by steady growth and smaller year-to-year fluctuations. Efforts to reduce the dependence of agricultural production on the vagaries of weather and thereby mitigate the extent of year-to-year fluctuations will have to be sustained and intensified. This can be done first by accelerated development of water resources and better use of irrigation facilities. Attempts to locate and survey groundwater resources in different parts of the country are being pursued vigorously. It is also being realised that the irrigation potential that has been created is not being utilised fully and that better management of existing facilities can yield substantial gains. This calls for greater attention to reducing losses of water through seepage, constructing distributaries and feeder channels and better drainage. There is need to pursue these courses of action vigorously.

38. Secondly, the search for higher-yielding strains of seeds for the major cash crops, including cotton, jute and oilseeds—as also for pulses—must be intensified. No amount of better water management and fertilizer use will help if the seeds themselves have a limited yield. The pest-resistant qualities of the new varieties of paddy, too, need to be further strengthened.

39. Thirdly, it is necessary to encourage, through research and policy, the adoption of cropping patterns which will ensure a reasonable balance between the demand for, and the supply of, major crops. There is some evidence to suggest that cereal production has become more profitable *vis-a-vis* commercial crops in irrigated areas and that this has resulted in more area being deviated from the latter. Similarly, the production of pulses as a rabi crop is declining in importance. Research efforts aimed at increasing the yield potential and the profitability of non-cereal crops are already under way and have yielded encouraging results. These programmes deserve to be intensified greatly.

40. The success achieved in food production has brought in its wake certain problems of a socio-economic nature. The first relates to the impact of the new techniques on employment. In areas where the high-yielding varieties have estabished themselves, the number of agricultural operations has increased and provided fuller employment to agricultural labour. Wages have tended to rise and labour shortages have been reported in some areas. But it is still not certain whether, and how far, the total volume of employment and the real incomes of these classes have increased. Another significant trend is the rapid expansion in the use of agricultural machinery, specially tractors. The use of machinery may have an impact on the productivity of land, but it also affects the volume of and seasonal pattern of labour requirements. It is clearly necessary to evolve a policy, based on a proper understanding of the various factors involved, which will ensure a proper balance between the requirements of productivity and of employment.

41. The question of the rich farmers becoming richer, and of growing income disparities in rural areas, cannot be solved in the existing background of techniques which favour those groups which have adequate land together with the complementary physical and financial resources. The smaller landholders have, therefore, to be assisted through development of techniques more appropriate to their circumstances, and a beginning has already been made in this direction as described earlier. The process would be assisted if the larger farmers could be called upon to bear their fair share of the costs of development, the benefit of which has so far tended to accrue mainly to them.

42. Land reforms is another problem demanding immediate action as the present uncertainties regarding ownership rights are not conducive to stability and steady growth in agriculture. Also, since ownership rights are a pre-requisite for the farmers' willingness to undertake permanent land improvements, implementation of land reforms needs to be expedited. The very fact that the new agricultural strategy has made small farms viable is itself a potent argument in favour of ownership being vested in the tiller of the soil.

43. Again, there is an urgent need for building up the infra-structure necessary to cope with the needs of agricultural production and the rising demand from the rural populace. Considerable headway has undoubtedly been made with respect to the development of all-weather roads, rural electrification, rural banking, etc., but these, and specially the provision of storage facilities, have not been on a sufficiently large enough scale to enable the fullest utilisation of the agricultural potential. The Government have initiated, during 1970-71, a number of labour-intensive programmes designed to create rural infra-structure facilities of a permanent nature and, in the process, reduce the degree of unemployment and under-employment in rural areas. Much more, however, remains to be done.

44. The question of the appropriate level of procurement and issue prices for foodgrains channelled through the public distribution will also demand increasing attention. With the gradual shrinkage of low-priced imported grains, these prices can be maintained at the existing levels only if the quantum of subsidy grows uncomfortably. Considerations of equity among different sections of the community also require that the rise in productivity is reflected in the level of prices. Besides, while the technological changes in agriculture have helped to reduce the dependence on imports of food, they have still to contribute to the solution of the problem of under-nourishment in our society.

PATTERN OF INDUSTRIAL PRODUCTION

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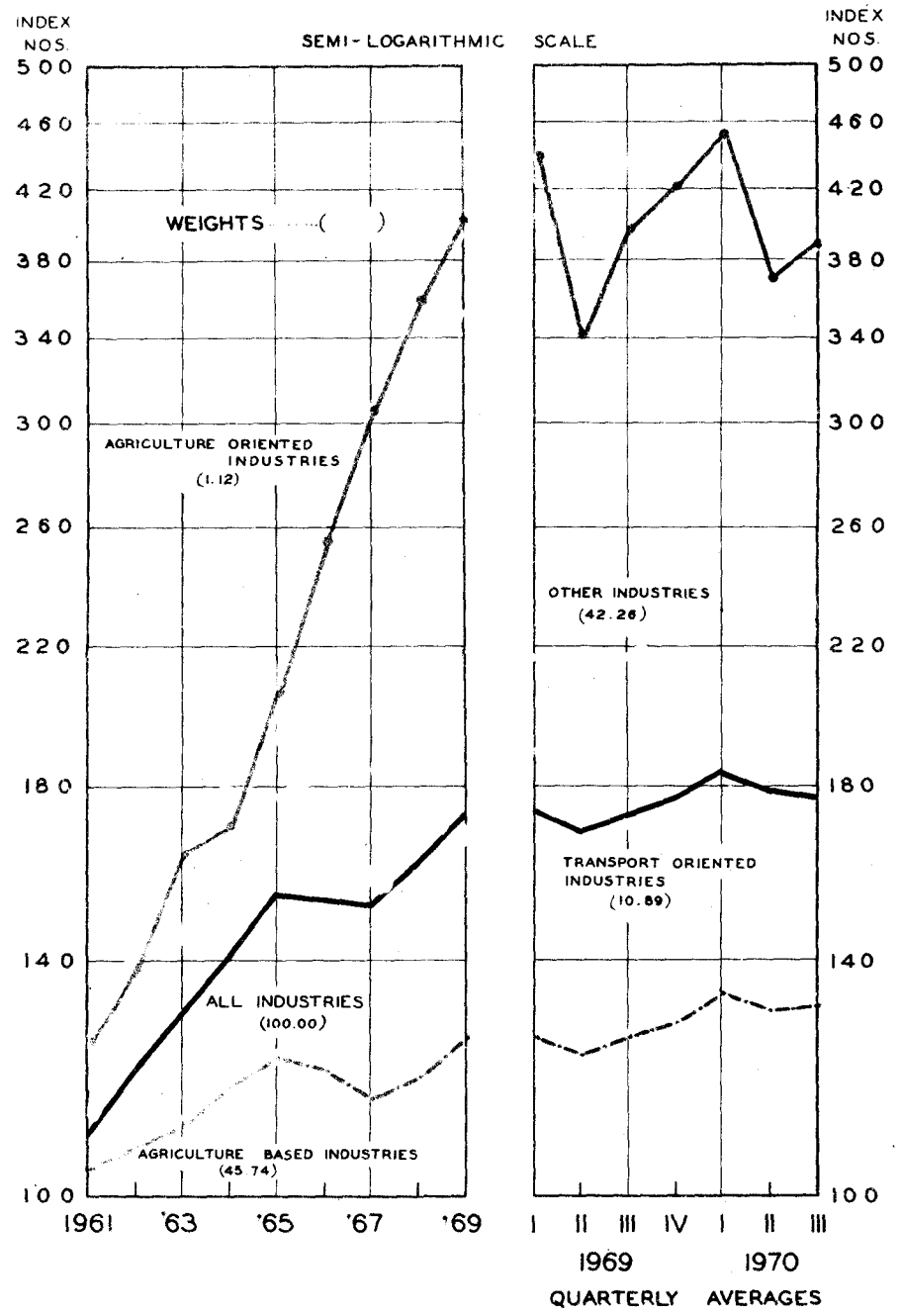

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