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The gross cropped area in the smallest size group of holdings has slightly decreased. The increase in sugarcane area by 1.00 acre in this size group appears at the cost of area both under paddy as well as 'other crops'. It seems that the increases in the gross cropped area of size groups 1.00—2.50 and 2.50—5.00 acres have mainly been devoted to sugarcane. On the other hand, the increase in the gross cropped area in size group 5 acres and above appears to underlie the increase under 'other crops'. The changes in absolute terms are broadly in conformity with the observations made earlier.

It may be concluded that the size of cultivated holding seems to be an important factor influencing the pattern of crop-production, particularly in the allocation of area between cash and subsistence crops.

Secondly, the proportion of area under cash crops is higher on holdings of bigger as compared to the small producers.

Thirdly, the proportion of area allocated to different subsistence crops also appears to be affected by size of cultivated holdings.

And lastly, under certain circumstances the smaller producers contribute more to the *increase* in area under cash crops than the bigger producers.

ECONOMICS OF CROPPING PATTERN

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The crop pattern is, in general, determined by regional and economic factors. Farmers, sometimes, switch over production programmes from food crops to non-food crops on account of profit margins. Even though there is growing awareness on the part of farmers about higher incomes that cash crops are likely to fetch, food crops still account for 80 per cent of the total sown area in the country. Rice is relatively an important crop in the Southern States and in Bihar, Orissa, West Bengal, Assam and Madhya Pradesh. Wheat is likewise a staple cereal in Punjab, Rajasthan, Uttar Pradesh and Madhya Pradesh. Jowar appears to be an important crop in Andhra Pradesh, Bombay and Mysore. Bajra is a staple millet in Rajasthan and is also grown on a sizable scale in Bombay and Punjab. With regard to non-food crops, sugarcane is grown mainly in Uttar Pradesh, Bihar, and Punjab, cotton in Madhya Pradesh, Madras, Bombay, Mysore and Punjab and Jute in Assam, West Bengal and Bihar.

TABLE I

(Base Year : 1951-52)	1952-1953	1953-1954	1954-1955	1955-1956	Average annual increase (1952-53 to 1955-56)	1956-1957	1957-1958	1958-1959	1959-1960	1960-1961	Average annual increase (1956-57 to 1960-61)	Average annual increase (1952-53 to 1960-61)
(1) Index of outlay on agricultural production including minor irrigation	95	128	180	244	62%	111	131	172	202	204	64%	63%
(2) Index of rice production	107	132	118	129	23%	135	119	145	141	153	38%	27%
(3) Index of wheat production	121	129	146	141	34%	152	125	160	159	164	52%	44%
(4) Index of foodgrain production	114	134	141	129	29%	135	120	148	140	149	39%	34%
(5) Index of cotton production	103	126	136	129	24%	151	153	153	122	164	48%	37%
(6) Index of jute production	83	66	62	89	..	90	88	110	99	86	..	..
(7) Index of all agricultural production	105	117	120	119	20%	127	117	136	130	138	29%	23%

Inter-State comparison of the percentage of area under food crops shows that in Bombay and Kerala only 65.2 and 68.5 per cent respectively of the sown area was under food crops. The corresponding figure was near about or more than 90 per cent in Uttar Pradesh, Bihar and Orissa. As regards non-food crops the States in the Southern, Western and Northern Zonal Council areas figure prominently, the percentage of area under non-food crops ranging from 20.1 (Rajasthan) to 34.8 (Bombay).

INDEX OF DEVELOPMENT OUTLAYS ON AGRICULTURAL PRODUCTION PROGRAMMES

Taking 1951-52 as the base year, an index of development outlays on agricultural production programmes has been constructed in Table I. Contrasted with it are a few indices of the growth of agricultural commodities.

It will be seen that the increase in production throughout the period lagged considerably behind outlays; the length of the lag was however not at all uniform, nor a sign could be detected for the two to converge. In fact one cannot draw a smooth line either in respect of outlays or growth of output. The outlay was stepped up substantially from the year 1954-55, but reduced from 1956-57 and again lifted up from 1959-60. The movement of production was also erratic but not that production was high, exactly when outlay was the greatest, both rather behaved independently. It is, however, extremely difficult to bring out the actual response relationship linked to any given time. There are exogenous factors that count too. Broadly, it can be said that the response of production to outlays improved to some extent in the Second Plan period. In the First Plan the increase in the average annual outlay over 1951-52 was 62 per cent but the production of all agricultural commodities rose by only 20 per cent. The average percentage increase in the production of two major cereals (rice and wheat) were, however, 23 and 34 per cent and total foodgrains production increased by 29 per cent. During the Second Plan, however, all agricultural commodities increased by 29 per cent against an increase of outlays by 64 per cent. The foodgrain production advanced by 34 per cent and rice and wheat by 27 and 44 per cent respectively.

It thus appears that over the last two plan periods, one per cent increase in outlays, on an average, has resulted in half per cent increase in foodgrain production and quarter per cent increase in all commodities. It is quite possible that investment in bigger projects was taking long time to mature, while private investment maturing within a very short period was not induced on an adequate scale to make up the gap between outlays and output.

Considering the place of foodgrains in the aggregate supply of agricultural commodities, the First Plan development outlays succeeded to a fair degree in stimulating the drive for increased production. In the Second Plan period, the progress, however, slackened considerably, the production of foodgrains increased by only 17 per cent in 1960-61 over 1955-56 against a target of 22 per cent and compared to an increase of 29 per cent in 1955-56 over 1951-52 in the First Plan the inducement seems to have dried up. Besides foodgrains, the two most important commercial crops, cotton and jute, have also registered stagnation. On the whole, crop production in the Second Plan period has failed to provide sustenance to the initial push engineered during the First Plan.

An examination of the trend of production from the beginning of this century reveals the rapid increase in the relative share of the non-food crops to the total output. Though the area under food and non-food crops expanded simultaneously during this period, the relative increase of the acreage under non-food crops as compared to that under food crops is greater. To indicate this position the area under non-food crops cultivated in a year for every 100 acres of food crops is given in Table II.

TABLE II

Quinquennium	Gross area sown under non-food crops (in acres) per 100 acres of gross area sown under food crops	Decennial Average
1900-01 to 1904-05	20.0	20.7
1905-06 to 1909-10	21.3	
1910-11 to 1914-15	22.4	21.7
1915-16 to 1919-20	21.0	
1920-21 to 1924-25	22.1	23.7
1925-26 to 1929-30	25.3	
1930-31 to 1934-35	23.8	24.7
1935-36 to 1939-40	25.5	
1940-41 to 1944-45	24.8	..
1945-46 to 1949-50*	18.9	..
1950-51 to 1954-55*	21.2	..

* Figures for these periods relate to the Indian Union and those for the earlier years to undivided India.

It may be observed from Table II that India had in the beginning of the century 20 acres of land area under non-food crops for every 100 acres of gross area under food crops. As a result of the area under non-food crops growing faster than the area under food crops, this went up to 25 acres before partition. The separation of Pakistan from India brought about a distortion in this ratio to 19, a level less than the 1900-05 average. The trend, however, does not seem to have been arrested even during the subsequent years.

An examination of cropping pattern revealed that between 1949-50 and 1956-57, while the area sown under all the food crops taken together went up from 251 million acres to 280 million acres, the percentage share of foodgrains acreage in total acreage sown fell from 86.6 to 84.1. During the same period, the area under all non-food crops taken together went up from 39 million acres to 53 million acres and the percentage share of non-food crops in total acreage thus increased from 13.5 to 16. Not only did the relative share of non-food crops in the total acreage go up relatively to food crops, the increase in the acreage under non-food crops was also much faster than under food crops. Thus, over this period the acreage under non-food crops increased by 37 per cent while that under food crops increased by only 12 per cent. In view of the relative profitability of the commercial crops, the increase in the percentage share of the non-food crops in the total acreage may perhaps be interpreted as an indication that economic incentives are beginning to be felt to a larger extent than before.

From a study of the food products available for consumption it is possible to reach some useful conclusions regarding the respective shares of primary and protective foods in the diet of the people. The available data show that not only the total supply has gone down but the composition is poorer as compared with the pre-war period (1934-38). There has been a deterioration in the net supplies *per capita* of cereals, meat and fish and milk and milk products. Improvement is noticed only in the case of pulses, potatoes, other roots and fats and oils. Thus food consumption has suffered in respect of both the protective (animal protein) and the energy-giving (cereals) items of food. The trend since 1948-49, however, has not been very discouraging. There has been an improvement in the case of cereals, pulses and potatoes. The improvement in the level of food consumption is mainly due to increase in supplies of cereals and pulses. The conclusion, therefore, may be that it is the availability of foodgrains that determines the adequacy or otherwise of food supply; the protective foods playing a very significant part. This is also borne out on *a priori* grounds, because the availability of protective foods depends on adequate supplies of cereals and the release of land for the production of protective foods. For supporting a population of a given size, the protective food products require more land than energy producing food products in order to supply an equal amount of calories. In a country where the land area for cereal production is itself inadequate, the prospects of increasing the supplies of protective foods are limited. The only other alternative for securing larger supplies of protective food would be through an increase in the productivity of farming for securing larger supplies of foodgrains.