AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Vol XVI
No. 2

APRIL-
JUNE
1961

ISSN 0019-5014

INDIAN JOURNAL OF AGRICULTURAL ECONOMICS

INDIAN SOCIETY OF
AGRICULTURAL ECONOMICS,
BOMBAY

NOTES

SECOND AGRICULTURAL LABOUR ENQUIRY

The much awaited Report of the Second Agricultural Labour Enquiry conducted in 1956-57 was published towards the end of 1960. The Enquiry was conducted with the primary purpose of obtaining "a comparative picture of the conditions of agricultural labourers in the country as between 1950-51 and 1956-57." That this objective has not been accomplished is how amply proved by some able contributions.[1]

The fault is not entirely of those who designed and conducted the Enquiry. The concepts, definitions and methodology adopted in the First Enquiry needed refinement, if not complete modification.. The choice before the sponsors of the Second Enquiry was difficult : either to stick to the inappropriate, if not faulty, concepts, etc., used in the First Enquiry or to modify them and, in the process, lose the benefit of comparability. The decision of the sponsors in favour of the latter would be endorsed by research workers,—provided the resulting improvement was sizeable and distinct. This is far from the case as has been shown by Dr. Raj and others. Besides, with some additional processing of the old and the new data, comparable results with identical definitions could have been obtained, at least for a sub-sample. Apart from this, since there were important changes in methodology, the Report should have avoided the temptation—or was it compulsion ?—to establish comparability with the result of the 1950-51 Enquiry.

The more important changes in concepts, definitions and methodology are mentioned below :

(1) *Agricultural Labour*

In the First Enquiry, the definition of agricultural labourers was confined to those employed for wages in the processes of *crop production*; while in the Second, hired employment in other agricultural occupations like dairy farming, horticulture, raising of livestocks, bees or poultry, etc., was also covered besides cultivation on land for farming purposes. The more important change however was that in the earlier Enquiry an agricultural labour family was defined as one in which either the head of the family or majority of the earners were employed as agricultural labourers for 50 per cent or more of the total number of days worked by them during the previous year. In the Second Enquiry, the criterion adopted for demarcation of agricultural labour families was income and not employment. An agricultural labour household was defined as one for which the major source of income during the previous year was agricultural wages.

(2) *Employment*

In the First Enquiry, work for less than half a day was ignored and that for half a day or more was considered as full day's occupation. As against this,

1. K. N. Raj, "Second Agricultural Labour Enquiry—A Futile and Misleading Investigation," *Economic Weekly*, Vol. XIII, No. 12, March 25, 1961 ; and C. H. Shah, "Agricultural Labour in 1956-57—An Analysis of the Trends in Their Economic Conditions during 1950-51 to 1956-57," *Indian Economic Journal*, Vol. VIII, No. 4, April, 1961.

in the Second Enquiry, three intensity classes were laid down, *viz.*, full, half, nominal and nil. A full day's work meant three-fourth or more of the normal working day of 10 hours. More than one-fourth and less than three-fourth of the normal hours was considered as work with half intensity. Less than one-fourth was deemed as nominal work with one-eighth intensity. This refinement in the method of calculating intensity of employment would, other things being equal, give a smaller quantum of employment.

(3) *Income-Estimation*

In the Second Enquiry, perquisites and other such incomes received in kind were evaluated in cash at ruling *wholesale* prices as against the ruling *retail* prices in the 1950-51 Enquiry.

These important changes in methodology have considerably reduced the comparability of the results of the two Enquiries. If, however, the magnitude of the difference attributable to the change in methodology can be identified and isolated, the comparability can be restored. Efforts have been made in this direction, but as is natural, the measurement of difference is not precise. Nonetheless, it makes the comparison more meaningful. It is very significant that when adjustments are made for the change in methodology, the results lead to conclusions which are quite the opposite of those stated in the Report. Commenting on this, Dr. K. N. Raj observes : "From our analysis of the factors likely to have been responsible for the decline in income from cultivation and for the decline in wage rates, and considering also the dubious nature of the estimates regarding income of attached labour, it will be obvious that no conclusions can really be drawn from these data. It is not impossible that when the necessary corrections are made (if they *can* be made) for ensuring comparability, the same data may reveal an *increase rather than a decrease* in the total income of agricultural labour families." Dr. C. H. Shah is more categorical and observes : "The comparisons of the data after various adjustments would not indicate deterioration in wage and income level and would suggest improvement of the level of consumption and no decline in employment level. On the whole one gets an impression . . . . that the economic conditions of agricultural labour have tended to *improve* between 1950-51 and 1956-57."

If comparisons are eschewed and the Report is read as an account of the conditions of agricultural labour in 1956-57, the indicators noted in Table I may be considered relevant for the purpose.

Judged by any of the indicators shown in the table, the position of the agricultural labour households must be considered as highly unsatisfactory. Casual labourers obtain wage-paid employment varying from 6 - 7 months. In addition, there was self-employment for little over a month. Employment situation for attached labour was slightly better. Their wage-paid employment varied from 8-10 months. But self-employment in their case was insignificant. This is naturally reflected in their income levels. The total annual income per household varied from Rs. 402 in the case of casual workers without land to Rs. 525 in the case of attached labourers without land. By any token, agricultural labour was economically and socially by far the most depressed class in India ; and till 1956-57 there was hardly any impact of planned development on their conditions.

TABLE I—COMPOSITION AND ECONOMIC CONDITIONS OF AGRICULTURAL LABOUR HOUSEHOLDS ALL-INDIA, 1956-57

Indicators	Casual		Attached	
	With land	Without land	With land	Without land
1. Composition of Agricultural Labour Households (in Per cent)	29.9	43.6	11.8	14.7
2. (i) Extent of Total Annual Wage-paid Employment of Men Agricultural Labourers (in Days)	180.43	218.79	247.39	292.19
(ii) Agricultural Employment (in Days)	152.50	188.05	219.46	274.24
3. (i) Annual Income per Household (Rupees)	439	402	451	525
(ii) Agricultural Labour Income (Rupees)	279	303	328	446
4. Consumption Expenditure per Household (Rupees)	666	530	710	692
5. Debt per Agricultural Labour Household (Rupees)	Casual 85.46		Attached 95.62	

Consumption expenditure exceeded income for all categories of agricultural labour, the deficit varying from Rs. 128 in the case of casual workers without land to Rs. 259 in the case of attached labour with land. It appears that the deficit was larger in the case of labourers with land in both the casual and the attached categories. Days of gainful employment were also fewer in their case. Does this mean that ownership of tiny pieces of land is a liability rather than a source of additional income? Such ownership, by tying them up to unremunerative work on farms, also reduces opportunities for wage-paid employment. If so, this poses a provoking issue for land policy.

A fuller analysis of consumption expenditure and indebtedness reveals certain interesting features. Here we are taking the liberty of making comparisons with the earlier Enquiry, since the analysis is not affected by the change in concepts and methodology. As will be seen from Table II, the distribution of consumption expenditure has become a little more balanced in 1956-57 compared to 1950-51. The percentage expenditure on food consumption has come down from 85.3 to 77.3. While there is a decline of about 12.8 per cent in the expenditure on foodgrains, the expenditure on items like milk and milk products, meat and fish shows significant increase. The most striking and rather inexplicable feature is however the phenomenal increase in the percentage of expenditure on fuel and lighting.[2]

2. Unlike the First Enquiry, fuel collected free of cost was evaluated during the Second Enquiry.

TABLE II—DISTRIBUTION OF CONSUMPTION EXPENDITURE IN PERCENTAGE

Items	1950-51	1956-57
Foodgrains	65.3	56.9
Edible Oil	2.3	2.6
Sugar	1.3	1.7
Milk and Milk Products	0.7	2.4
Meat and Fish	1.4	2.5
Other food items	14.3	11.2
Total food	85.3	77.3
Clothing	6.3	6.0
Fuel and Lighting	1.1	7.9
Services and Miscellaneous	7.3	8.8
	100.0	100.0

Though the quantum of indebtedness of agricultural labour households has increased between 1950-51 and 1956-57, the analysis of the purpose of borrowing reveals a distinct change for the better. The percentage of debt incurred for the purpose of consumption has declined from 74.3 to 46.4. As against this, the percentage of borrowings for production and social expenditure has increased significantly. This is a clear indication of the improvement in the economic conditions of agricultural labour households.

PURPOSE OF DEBT
1950-51 to 1956-57 (in percentage)

Production		Consumption		Social		Others	
1950-51	1956-57	1950-51	1956-57	1950-51	1956-57	1950-51	1956-57
9.5	18.8	74.3	46.4	16.2	23.9	—	10.9

SOURCE OF BORROWING

Employers		Shop-Keepers		Moneylenders		Co-operative Societies and Others	
1950-51	1956-57	1950-51	1956-57	1950-51	1956-57	1950-51	1956-57
21.0	15.2	5.7	5.1	36.2	34.1	37.1	45.6

It is also gratifying to note that the dependence of the borrowers on their employers, shop-keepers and moneylenders has decreased. They now rely more on sources like co-operative societies for their borrowings. This would indicate either an improvement in creditworthiness or better institutional arrangements for the supply of credit.

M. L. DANTWALA*

* (Ag.) Director and Professor of Agricultural Economics, Department of Economics, University of Bombay, Bombay.

INDICES OF YIELD IN AGRICULTURE*

Introduction

The concept of productivity has found wide usage in current economic literature. While its significance in industry is greatly stressed it is no less important in agriculture. In fact, agriculture can also be regarded as an industry for purposes of productivity analysis. Productivity may generally be defined as a measure of the overall efficiency of industry. While several factors have a bearing on the overall efficiency of an industry, it is possible to measure this in terms of only one factor at a time.[1] The productivity of a specified factor (*e.g.*, labour or land) is therefore measured by the ratio of output to the input of the factor.

The productivity of land assumes great importance in agriculture for the simple reason that land is a scarce commodity ; the area under cultivation cannot be indefinitely increased especially in countries like India where land has been already fully exploited. It is therefore necessary to produce the maximum output from the land available for cultivation. Raising the productivity of agriculture (used synonymously for productivity of land) has been one of the major objectives of our Five-Year Plans. Agricultural productivity in a broader sense can be measured in terms of the yield per acre. The present study therefore attempts to define certain indices for measuring changes in yield per acre in India and to evaluate the agricultural production programme in the light of these indices.

The limitations of Indian agricultural statistics are well known. Considerable efforts have been made in recent years to effect an improvement in the accuracy of agricultural statistics. Whether or not any improvement has occurred, it has to be borne in mind that any analysis based on the data suffers from the limitations of the data themselves. The data on which the indices are based are the statistics of area and yield of principal crops published in the annual season and crop reports.[2] Two different procedures have been outlined in this paper.

Framework of the Indices[3]

(*a*) *The first approach :* The first approach consists of the computation of the yield per acre of the principal crops and to express the yield per acre for any year 't' in terms of the yield per acre in the base year. Denoting by a_{it}' p_{it} the area and production of crop 'i' in the year 't' and a_{io}, p_{io} the corresponding figures for the base year, then the yield per acre of the crop 'i' in the base year and the current year 't' are given by

$$\frac{p_{io}}{a_{io}} \quad \text{and} \quad \frac{p_{it}}{a_{it}} \quad \text{respectively.}$$

---

*The author wishes to express his gratitude to Mr. H. A. Fell, UNTAO Expert at the Demographic Training and Research Centre for his valuable comments on this paper.

1. See "Measurement of Industrial Productivity," K. E. Vaidyanathan, *Finance and Commerce*, December, 1959.

2. Taken from the Monthly Abstract of Statistics, Government of India Central Statistical Organization, January 1960, pp. 63-65.

3. *Vide* Pearson and Bennet : Statistical Methods Applied to Agricultural Economics.

The yield index for the specified crop in respect of year 't' will be

$$\left(\frac{p_{it}}{a_{it}} \div \frac{p_{io}}{a_{io}}\right) \times 100$$

The crops have been classified into two broad groups, *viz.*, food crops and non-food crops. The food crops have been further divided into two sub-groups, *viz.*, cereals and pulses and the non-food crops have been divided into 4 sub-groups, *viz.*, oilseeds, fibres, plantation crops and miscellaneous. The group and sub-group indices are obtained by weighting the specific indices by the areas under the crops in the base year. The general form of the index is given by

$$I_y^t = \frac{\Sigma \left(\frac{p_{it}}{a_{it}} \times \frac{a_{io}}{p_{io}}\right) a_{io}}{\Sigma a_{io}}$$

This can be interpreted in another way also. Expressing the numerator in the form

$$\frac{\frac{p_{it}}{a_{it}} \times a_{io}}{p_{io}} \times a_{io} = \lambda_{it}\, a_{io} \text{ (say)},$$

where λ_{it} expresses the productivity relative for the year 't'. Thus

$$I_y^t = \frac{\Sigma \lambda_{it}\, a_{io}}{\Sigma a_{io}} \times 100$$

is the weighted average of productivity relatives for individual crops, the weights being the area under each crop in the base year. The agricultural year 1951-52 has been chosen as the base year as this year marks the beginning of planned development and hence this year will be suitable for comparison.

(*b*) *The second approach :* In the second approach the All-India index numbers of agricultural production (compiled by the Directorate of Economics and Statistics, Ministry of Agriculture) has been used in studying changes in yield per acre. The all-India index of agricultural production covers 28 crops divided into two main groups and six sub-groups. Weights have been assigned to the different commodities in proportion to the total value of production of each commodity during the base period, *viz.*, year ending June, 1950. The output has been evaluated at the annual harvest prices prevailing during the year, except in some cases where wholesale prices have been used with appropriate adjustment. The index numbers have been constructed by the chain base method in order to provide for changes in the estimated production due to extension in the geographical coverage or to variation in the method of estimation over time. The sub-group and the group index numbers are the weighted arithmetic averages of the production indices of the crops covered; the concept of production for the series is gross, no allowance being made for seed or wastage.

The first step in making use of the index number of agricultural production was to shift the base from 1949-50 to 1951-52 to ensure comparability with the first approach. To measure changes in yield per acre, the production indices have to be deflated by the changes in area. The change in area of any crop, group or sub-group relative to the base year is given by

$$I_a^t = \frac{a_{it}}{a_{io}} \times 100$$

If I_p^t denotes the index numbers of agricultural production for year 't', then

$$\frac{I_p^t}{I_a^t} \times 100 = I_y^t$$

is a measure of the change in yield per acre in year 't' in relation to the base year.

These two approaches do not give the same figure in respect of I_y^t in view of the fact that the first approach is based on area as weights whereas in the second approach value of crop output has been used as weights in the construction of I_p^t. While studying the trends over a period one has to make use of one of these two methods. But the first method is preferable for the following reasons : (1) it takes into account the changes in the yield of different crops; (2) area has been used as weights and hence it is more relevant to the study of yield of land.

Recent Trends in Yield

The trends in productivity revealed by the two methods indicate considerable fluctuations in yield per acre since 1951-52. The overall picture is that yield has been at a high level since 1951-52 when compared with 1951-52 and the peak has been reached in 1958-59. While there are differences in the group and sub-group indices obtained by the two methods, one may expect the first approach to portray the situation more accurately. Table I compares the yield indices (I_y^t) obtained by the first approach with the corresponding indices of area (I_a^t).

TABLE I—COMPARATIVE TRENDS IN YIELD AND AREA: 1951-52 TO 1958-59

(Base 1951-52 = 100)

Year (t)	Food Crops		Non-Food Crops		General Index	
	I_y^t	I_a^t	I_y^t	I_a^t	I_y^t	I_a^t
1951-52	100.0	100.0	100.0	100.0	100.0	100.0
1952-53	109.4	105.3	101.6	96.6	107.9	103.7
1953-54	122.0	112.5	113.2	96.4	120.3	109.4
1954-55	119.9	111.2	115.4	106.9	119.0	110.4
1955-56	112.6	114.0	105.8	109.7	111.3	113.2
1956-57	115.1	114.9	113.2	112.7	114.7	114.5
1957-58	110.7	112.1	108.2	112.0	110.2	112.1
1958-59	124.9	115.4	120.2	112.8	124.0	114.9

It is seen that the overall yield per acre increased by 24 per cent between 1951-52 and 1958-59, the increase in yield of food and non-food crops being 24.9 per cent and 20.2 per cent respectively. The rise in the yield of cereals was 26.8 per cent during this period when compared to 17 per cent in respect of pulses. (*Vide* Appendix). Among the non-food crops, oilseeds and fibres have recorded an increase of approximately 22.5 per cent in productivity. The corresponding increases for plantation crops and miscellaneous crops were 11 per cent and 8 per cent respectively. There has been considerable fluctuations from year to year and hence these percentages reveal that seasonal conditions were favourable in 1958-59 when compared to 1951-52.

The productivity indices specific for each crop show that the maximum gain (51.3 per cent) in yield has been recorded by gram, whereas there has been actually a decline in yield in respect of tur, other pulses, black pepper and chillies. India's staple food crops, *viz.*, rice and wheat have recorded an increase in yield of 28.1 per cent and 20.4 per cent respectively. The specific indices also reveal considerable fluctuations from year to year mainly due to differences in seasonal conditions.

The trend in the yield and area have been projected to 1960-61 by fitting a linear equation

$$y = a + bx$$

for the observed yield and area indices, choosing 1951-52 as the origin and

$$x = t - 1951\text{-}52$$

using the data given in Table I, the following trend lines were obtained :

	Trend lines
Food Crops	
Yield	$107.96 + 1.82x$
Area	$104.35 + 1.81x$
Non-Food Crops	
Yield	$102.83 + 1.96x$
Area	$96.79 + 2.60x$

Using these trend lines the "expected values" of the yield and area indices were arrived at for 1951-52 to 1960-61. Table II gives the expected values for 1959-60 and 1960-61.

TABLE II—EXPECTED VALUES OF I_y^t AND I_a^t

	1959-60	1960-61
Food Crops		
Yield (I_y^t)	122.52	124.34
Area (I_a^t)	118.83	120.64
Non-Food Crops		
Yield (I_y^t)	118.51	120.47
Area (I_a^t)	117.59	120.19

Implications on Planning

The above analysis shows that it is possible to express agricultural production in terms of two components, *viz.*, yield and area. With the usual notation,

$$p = y \times a$$

expresses this relationship. If δ_p, δ_y and δ_a denote the gains in production, yield and area respectively during the plan period, then

$$\frac{p + \delta_p}{p} = \frac{y + \delta_y}{y} \times \frac{a + \delta_a}{a}$$

or

$$(1 + \frac{\delta_p}{p}) = (1 + \frac{\delta_y}{y})\ (1 + \frac{\delta_a}{a})$$

This model has enabled the estimation of the probable levels of output in 1960-61. Using the expected values of I_y^t and I_a^t given in Table II, the results are set out in Table III.

TABLE III—ANTICIPATED LEVELS OF AGRICULTURAL OUTPUT: 1960-61

Item	Percentage increase over 1955-56
Food Crops	
Yield	7.90
Area	8.11
Output	16.64
Non-Food Crops	
Yield	8.86
Area	12.13
Output	22.05

This shows that the production of foodgrains is likely to increase by 16.64 per cent during the Second Plan period as against the target of 23 per cent contemplated in the plan. The situation regarding non-food crops is more sanguine but even here the targets are not likely to be achieved.

K. E. VAIDYANATHAN*

*Demographic Training and Research Centre, Chembur, Bombay.

APPENDIX

INDICES OF AGRICULTURAL YIELD BY GROUPS AND SUB-GROUPS

(Base 1951-52 = 100)

Groups / Sub-Groups	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59
			1st Method				
Foodgrains	109.4	122.0	119.9	112.6	115.1	110.7	124.9
Cereals	110.9	125.0	122.3	114.3	117.2	114.6	126.8
Pulses	103.2	109.7	109.8	105.4	106.3	94.6	117.0
Non-Food Crops	101.6	113.2	115.4	105.8	113.2	108.2	120.2
Oilseeds	101.2	115.6	117.0	107.9	111.8	102.5	122.4
Fibres	105.0	116.2	116.5	104.2	120.5	119.8	122.5
Plantation Crops	103.4	98.7	104.3	109.2	111.0	111.0	111.0
Miscellaneous	94.9	99.2	108.5	101.6	101.0	101.2	108.0
General Index	107.9	120.3	119.0	111.3	114.3	110.2	124.0
			2nd Method				
Foodgrains	105.4	116.2	113.5	111.1	115.1	105.8	121.9
Cereals	105.7	117.8	114.2	112.8	117.0	108.0	122.8
Pulses	104.0	107.2	112.4	106.1	109.9	96.5	120.9
Non-Food Crops	97.2	98.3	102.3	99.1	104.3	103.3	109.6
Oilseeds	98.7	113.2	117.4	107.8	114.5	111.1	125.7
Fibres	100.9	98.7	97.7	95.0	107.7	104.1	112.5
Plantation Crops	106.2	93.9	101.8	100.9	103.2	105.3	109.9
Miscellaneous	94.8	100.2	107.3	101.9	101.6	100.7	105.6
General Index	100.9	107.1	108.7	105.9	110.7	104.8	117.0

WAREHOUSING DEVELOPMENT IN INDIA*

Warehousing facilities have always been regarded as important adjuncts to orderly marketing. The first tangible step for promotion of this activity was taken by the Reserve Bank of India in 1944, when it recommended to the then Provincial Governments and important Indian States to enact legislation for the establishment and supervision of warehouses. Accordingly, some States enacted the necessary legislation and displayed interest in the construction of godowns by co-operatives. But neither in these States nor in the country as a whole was any progress made in the development of organized storage. The real progress commenced only after the All-India Rural Credit Survey Committee recommended active participation of States for promoting warehousing on a country-wide scale.

Organizational frame-work needed for initiating a country-wide programme of warehousing development was provided in the Report of the All-India Rural Credit Survey Committee. The Committee's recommendations in this behalf were given effect to by enacting the Agricultural Produce (Development and Warehousing) Corporations Act in 1956 providing for establishment of a National Co-operative Development and Warehousing Board, the Central Warehousing Corporation and State Warehousing Corporations in all the States (except Jammu and Kashmir). The functions of the Board are to promote planned development of co-operative processing and marketing, to promote planned development of warehousing, to give financial assistance to State Governments and through them to co-operative institutions and to give general directions to the Central Warehousing Corporation, Under the Act the Board set up the National Co-operative Development Fund and the National Warehousing Development Fund, finance for which is made available by the Government of India to the Board by way of annual grants. The former fund is meant for making long-term loans to State Governments to enable them to subscribe to the share capital of co-operative processing and marketing societies and for giving recurring and non-recurring subsidies to the State Governments, and through them, to co-operative societies for their development ; the latter fund is meant for subscribing to the share capital of the Central Warehousing Corporation and for making loans to State Governments to enable them to subscribe to the share capital of the State Warehousing Corporations and to develop warehousing and storage through co-operatives.

For operational purposes, certain areas are allocated between the Central Warehousing Corporation, which may be called the focal body, and a State Warehousing Corporation in each State. Whereas centres of all-India importance figuring in the export/import trade or inter-State trade are to be provided with warehouses by the Central Warehousing Corporation, the State Warehousing Corporations are to take care mainly of centres of regional importance. The State Corporations are not, however, supposed to function below the sub-divisional level. To complete the chain, warehouses at centres below sub-divisional level are to be provided by a number of co-operative societies, to be set up all over the country. The entire warehousing activity is, therefore, planned to be undertaken by these three agencies : (1) The Central Warehousing Corporation at centres of all-India importance, (2) The State Corporations at centres above sub-divisional level and of State importance and (3) Co-operatives below the sub-divisional level.

* Views expressed in the note are the personal views of the author.

Under the provisions of Section 3 of the Agricultural Produce (Development and Warehousing) Corporations Act, 1956, the Government of India established the National Co-operative Development and Warehousing Board on September 1, 1956 ; the Board started functioning with effect from November 7, 1956. Under the same Act, the Central Warehousing Corporation was established on March 2, 1957. The Corporation is managed by the Board of Directors comprising 14 directors, of whom four are nominated by the Government of India to represent scheduled banks, co-operative societies, insurance companies, investment trusts and recognized institutions and joint stock companies dealing in agricultural produce. While general control, direction and supervision are exercised by the Board of Directors, the execution of policy is attended to by the Executive Committee consisting of five members. The strength of Board of Directors of a State Warehousing Corporation is ten, besides a managing director. Five directors each are nominated by the Central Warehousing Corporation and the State Government.

The authorised share capital of the Central Warehousing Corporation is Rs. 20 crores and that of each of the State Warehousing Corporations is not to exceed Rs. 2 crores. State Warehousing Corporations find their capital from State Governments and the Central Warehousing Corporation on a fifty-fifty basis. The Central Warehousing Corporation has, however, its capital open for subscription (the Government of India can subscribe up to 40 per cent of the entire authorised capital of Rs. 20 crores) to banks, insurance companies, joint stock companies dealing in agricultural produce, financial institutions and co-operative societies. The idea is to associate with it, besides the Government, as large a set of economic institutions in the country as possible so as to make warehousing a national venture.

Progress of Warehousing

The Second Five-Year Plan provided for the construction of 100 warehouses by the Central Warehousing Corporation, 300 warehouses by the State Corporations, 1,500 godowns at the *mandi* level by the marketing co-operatives and 4,000 godowns at the village level by large size societies. Subsequently, the target fixed for Central Warehousing Corporation was reduced to 50 warehouses in view of the fact that the Corporation was set up one year after the Second Plan commenced and that it started functioning effectively from a much later date.

State Warehousing Corporation was established first in Bihar in 1956-57, followed in 1957-58 by Madhya Pradesh, Orissa, Uttar Pradesh, Bombay, West Bengal, Madras and Mysore. In the subsequent year, *i.e.*, 1958-59 Corporations were set up in five more States, *viz.*, Andhra Pradesh, Assam, Kerala, Rajasthan and Punjab. Thus, it was only by the end of March 1959 that all the States had established a State Warehousing Corporation. This fact needs to be kept in view while assessing the progress achieved.

Under Section 36(1) of the Agricultural Produce (Development and Warehousing) Corporations Act, 1956, the National Co-operative Development and Warehousing Board was expected to draw an annual programme of development before the commencement of each year. Accordingly, the Board fixed targets,

both physical and financial, for warehousing development for each of the years 1956-57 to 1960-61. The following physical targets were fixed in respect of Central and State Warehousing Corporations. To facilitate assessment, achievements are also given in Table I.

TABLE I—WAREHOUSES SET UP BY CENTRAL AND STATE WAREHOUSING CORPORATIONS

	Central Warehousing Corporation		State Warehousing Corporations	
	Targets	Achievements	Targets	Achievements
1957-58 ..	—	—	—	—
1958-59 ..	12	9	50	41
1959-60 ..	10	17	103	106
1960-61 ..	21	10	127	76
Total ..	43	36	280	223

No targets were fixed for the year 1957-58 mainly because the Central Warehousing Corporation and the State Warehousing Corporations were established in 1957-58 and they had to face initial teething difficulties in respect of organisation, selection of personnel, acquisition of sites, etc. The Central Warehousing Corporation was established in March 1957 ; however, personnel for running the warehouses was recruited in October 1957 and trained in November 1957. Further, since the Corporation was undertaking a venture whose complexities could not be foreseen fully, its Board of Directors rightly decided to make, as a matter of caution, an experimental beginning in a few hired godowns in order to assess the potentialities of the place before any construction activity was actually taken in hand. The State Warehousing Corporations were set up either in 1957-58 or in 1958-59 and they had to undertake preliminary investigations in regard to selection of centres and sites, etc. When these and many other initial difficulties were overcome, progress was quite rapid. As against a target of 12, 10 and 21 warehouses fixed for the Central Warehousing Corporation for the years 1958-59, 1959-60 and 1960-61, respectively, 9, 17 and 10 warehouses were set up in the respective years. Likewise out of total target of 280 warehouses to be set up by the State Warehousing Corporations, 223 warehouses were set up upto March 1961. Thus, more than 80 per cent of the targets was achieved by both the Central and State Corporations.

As for the programme of construction of godowns by large size societies and marketing societies, annual targets were fixed by the National Co-operative Development and Warehousing Board from the first year of the Second Plan as shown in Table II.

Targets were somewhat modest for the year 1956-57 mainly because the National Co-operative Development and Warehousing Board started functioning from the latter half of that year. In view of National Development Council's Resolution on Service Co-operatives and the subsequent report of the Working Group

TABLE II—PROGRESS OF CO-OPERATIVE WAREHOUSING—TARGETS AND ACHIEVEMENTS

	Godowns of large size societies		Rural godowns		Godowns of marketing societies		Total	
	Targets	Achievements	Targets	Achievements	Targets	Achievements	Targets	Achievements
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1956-57 ..	419	376	—	—	216	218	635	594
1957-58 ..	1,052	984	—	—	398	430	1,450	1,414
1958-59 ..	900	900	—	—	390	379	1,290	1,279
1959-60 ..	662	710	272	187	544	296	1,478	1,193
Total ..	3,033	2,970	272	187	1,548	1,323	4,853	4,480

thereon, the Board drew up a supplementary programme of rural godowns to be constructed by village societies during 1959-60. Further, the targets of godowns to be constructed by marketing societies were revised upwards from 399 to 544 for that year; however, the number of godowns actually constructed by marketing societies was only 296. Barring this marked short-fall, overall progress was quite satisfactory inasmuch as in the first four years of the Second Plan 2,970 godowns were constructed by large size societies as against Second Plan target for them of 4,000 godowns. Because of shift in co-operative policy no targets were fixed for large size societies for the year 1960-61. Marketing societies constructed as many as 1,323 godowns as against target of 1,548 godowns, and even here achievement compares favourably with the Second Plan target of 1,500 godowns for the marketing societies.

Financial Assistance

The necessary financial requirements for carrying out the programme of warehousing development were met by the Central Warehousing Corporation and State Warehousing Corporations out of their share capital collected from the National Co-operative Development and Warehousing Board and other subscribers such as State Bank of India, scheduled banks, investment trusts, etc., in the case of the former and from State Governments and Central Warehousing Corporation in the case of the latter. There was also provision for loans and advances from the Board to these Corporations. As for the financial requirements of the co-operative institutions, loans and subsidies were given by the National Co-operative Development and Warehousing Board and the State Governments. Of the total cost of godowns to be constructed by these institutions, 15 per cent to be given by the State Government and between 15 per cent to 25 per cent, depending on merit of each case, to be given by the National Co-operative Development and Warehousing Board was in the form of subsidy and

the rest was to be given by the Board in the form of loans. The financial assistance for godowns given by the Board upto March 1960 is given in Table III.

TABLE III—FINANCIAL ASSISTANCE GIVEN BY NATIONAL CO-OPERATIVE DEVELOPMENT AND WAREHOUSING BOARD TO CO-OPERATIVE INSTITUTIONS FOR GODOWNS

(In lakhs of rupees)

	Loans	Subsidy	Total
1956-57	39.1	8.6	47.7
1957-58	99.6	23.1	122.7
1958-59	94.2	20.9	115.1
1959-60	138.5	29.4	167.9
Total	371.4	82.0	453.4

During the first four years of the Second Plan period the National Co-operative Development and Warehousing Board gave a total financial assistance of Rs. 453.4 lakhs of which Rs. 371.4 lakhs were in the form of loans and Rs. 82 lakhs in the form of subsidy.

From the foregoing, it would appear that all the three agencies, *viz.*, Central Warehousing Corporation, State Warehousing Corporations and co-operative institutions have implemented quite satisfactorily the programme of warehousing development envisaged in the Second Five-Year Plan. As a result of this achievement, an approximate storage capacity of 73,000 tons would be created by about 40 warehouses expected to be set up by the Central Warehousing Corporation upto March 31, 1961 and of 1.39 lakh tons by 147 warehouses of State Warehousing Corporations as at the end of March 1960. These storage facilities have been increasingly availed of by cultivators and traders. The quantity of produce stored in the warehouses of the Central Warehousing Corporation progressively increased from a nominal figure of 490 tons in April 1958 to 6,000 tons in March 1959, 19,000 tons in March 1960 and 33,000 tons in December 1960. The quantity of produce stored in the State warehouses stood at 87,000 tons in July 1960 and 93,000 tons in September 1960. In respect of the Central warehouses, during 1959-60 the maximum overall occupancy was 83 per cent and the minimum as high as 60 per cent. With the increase in the business, the financial results of the Central Warehousing Corporation showed improvements. The excess of expenditure incurred directly on warehouses over earnings dropped from Rs. 1.25 lakhs in 1958-59 to only Rs. 0.19 lakh in 1959-60. Receipts from storage charges increased from Rs. 0.76 lakh in 1958-59 to Rs. 3.18 lakhs in 1959-60. Further, the commodities stored in the warehouses make a long list of about 58 items ranging from foodgrains to spices, and cover practically all the agricultural commodities.

Programme in the Third Plan

As for the programme for the Third Plan period the Sub-Committee of the National Co-operative Development and Warehousing Board has in their draft outline of the Third Plan suggested a programme of constructing 9,060 godowns, most of which would be in rural areas. The Committee has also suggested that the U. S. P. L. 480 funds should be made available for assisting co-operative organizations in the matter of building godowns for storage. Further, the Central Warehousing Corporation is expected to have a total of 75 warehouses by the end of Third Five-Year Plan. In addition, it intends to set up 20 specialised storages including cold storages for perishable commodities like fruits and vegetables.

Marketing Finance

The success of Warehousing Scheme partly depends on the ease with which finance could be obtained from banks on the basis of warehouse receipts. During 1957-58 the Central Warehousing Corporation made vigorous efforts in this regard as a result of which the Reserve Bank of India agreed to exempt advances against warehouse receipts covering agricultural commodities from the purview of prohibitory orders restricting advances against such commodities. The State Bank of India also took active steps to simplify its rules and procedure so as to ensure prompt grant of advances against warehouse receipts. At present advances against warehouse receipts granted by the State Bank of India, commercial banks and co-operative banks are confined to the original depositor or to the first transferee of such depositor, because a warehouse receipt has not the attributes of free negotiability in the same way as promisory notes, bills of exchange or cheques have. The title to the goods covered by the receipt will be affected to the extent of any defect in the title of one or more intermediary transferees. Even so, this limitation is not likely to be a serious handicap since in normal course of business, a warehouse receipt is not likely to change hands as frequently as other negotiable instruments do. Therefore, the simplification of procedure for a quick grant of advances against warehouse receipts is far more important than the legal status of the warehouse receipt under the Negotiable Instruments Act. And the State Bank of India has already given a lead in this respect. Partly due to these steps, advances against warehouse receipts which were current in 395 cases amounting to Rs. 38.90 lakhs during 1958-59 rose to 1,368 cases amounting to Rs. 179 lakhs during 1959-60. If the amount and the number of cases involved in advances obtained appear modest, it is because this type of financing is new to our banking system. All the same, considering the developments in the banking sector in recent years, there is room for optimism that it would not be long before such financing partakes the character of normal banking business and unfolds the vast potentialities of the Warehousing Scheme as an instrument of marketing finance.

S. S. MADALGI

TRENDS IN THE PRICES OF CEREALS: REVIEW AND OUTLOOK

Introduction

It is hardly necessary to emphasise the crucial importance of the prices of foodgrains, particularly cereals, in the general price situation. The weightage assigned to food articles is 50.4 per cent in the general index of prices (Base 1952-53=100) ; and within this group cereals are weighted at nearly 39 per cent. The effect of any rise in the prices of cereals will be all-pervading and it would be a prime factor in initiating inflationary pressures, *via* its effects on costs in general and wages in particular.

If rising prices are undesirable, a precipitous fall in prices of cereals, it has to be remembered, may create hardships especially to classes that need protection most. Cereals occupy about 60 per cent of gross cropped area and hence, any serious deterioration in the terms of trade to producers of cereals would jeopardise the prospects of sustained agricultural improvement.

There is an additional reason why the prices of cereals need to be watched carefully during the period of the Third Plan. Under the P. L. 480, import of 16 million tons of wheat and 1 million ton of rice is ensured during the years 1960-64. In fact the quantum of import during 1960 has already reached the all-time peak of 4.95 million tons. In such an atmosphere of assured supply from external sources, a good crop in any particular year may tend to initiate a fall in prices.

This note attempts to analyse trends in the prices of cereals during the decade 1950-60. It is hoped that such a review of the experience of the movements in cereal prices might reveal some aspects useful for the formulation of future policy.

General Price Trends

At the outset, it would be necessary to indicate very broadly as to how the prices of foodgrains, particularly cereals, have behaved, during the decade, in the overall context of the general price level.

In Table I are given the index numbers of wholesale prices for certain selected commodities and groups of commodities. It can be seen that the general index moved up during this period by 12.2 points. The extent of increase seems to be pronounced in the group 'Manufactures' which showed a rise of 17.8 points, while in the case of cereals and industrial raw materials the rise was only 11 and 12.9 points respectively. In fact, if the food articles group is taken into account the rise has been of a still lower order, namely 8.2 points.

Such a trend is likely to give an apparent impression that the rise in prices over the decade has been a comparatively tame affair. Possibly this impression would have been justified were it not for the following two reasons. Firstly, the uptrend in the general price level was noticed during the closing quarter of 1949-50 itself ; and gathering further momentum with the outbreak of the Korean War, this uptrend reached its peak in March 1951. It is because of this fact that

TABLE I—INDEX NUMBERS OF WHOLESALE PRICES—1950-60
(Base : 1952-53=100)

Commodity	March 1950	March 1951	March 1952	March 1953	March 1954	March 1955	March 1956	March 1957	March 1958	March 1959	March 1960
General Index	106.4	125.2	99.9	100.8	100.3	90.8	98.1	105.6	105.4	112.3	118.6
Manufactures	98.9	118.7	107.6	98.9	100.6	101.1	102.9	106.2	107.7	108.6	116.7
Industrial Raw Materials	119.1	153.7	103.2	101.5	106.2	97.2	109.4	117.3	112.9	116.2	132.0
Food Articles	108.3	122.4	93.7	102.2	98.6	82.9	92.8	102.3	102.3	113.8	116.5
Cereals	92.0	100.0	95.0	100.0	88.0	70.0	86.0	99.0	95.0	102.0	103.0

TABLE II—INDEX NUMBERS OF PRODUCTION AND PRICE OF CEREALS

	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61
Production (Agricultural year: 1949-50=100) ..	90.3	91.2	101.4	120.1	114.5	114.9	120.5	108.5	129.3	125.3	—
Prices (Annual average for agricultural year : 1952-53=100) ..	98	101	100	94	75	82	99	100	107	106	104*

* Average for July 1960 to March 1961.

the year 1950 or 1951 is rather unsuitable for being chosen as a 'bench mark.' The extent of actual rise in prices during the period would be under-estimated if a comparison is made between the prices of 1950 or 1951 on the one hand and those of 1960 on the other. For a more meaningful understanding of the price situation, the year 1952-53 which was a year of all-round stability could be taken as a base for comparison. Secondly, the rise in prices, such as it is, has not come about through a steady upward trend ; rather, the price trends present a zig-zag movement, indicating sometimes quite sharp fluctuations.

Sharper Fluctuations in Prices of Cereals

The general price index declined by 10 points between 1953 and 1955 and then started rising again. Between 1955 and 1957 there was a rise of 15 points. With a negligible decline in 1958, the price index resumed its upward trend and stood at 118.6 in 1960, thus showing a rise of 12.2 points.

Interestingly enough, the price index for manufactures displays a consistent upward trend since March 1953 and records a total rise of about 17.8 points during the entire period covering 1953-60.

As against this trend, the price index for cereals presents much sharper, almost violent, oscillations. The index first slumped by 30 per cent during 1953-55 and then shot up by 41 per cent by 1957. After a slight decline by 4 points in 1958, the prices once again started moving up and by 1960 rose by 8 points or 9 per cent.

The point that needs to be emphasised is that apart from the level of food prices, it is this relative instability of cereals prices with its consequent impact on the income of agricultural producers, costs of living and costs of production, that poses a serious problem.

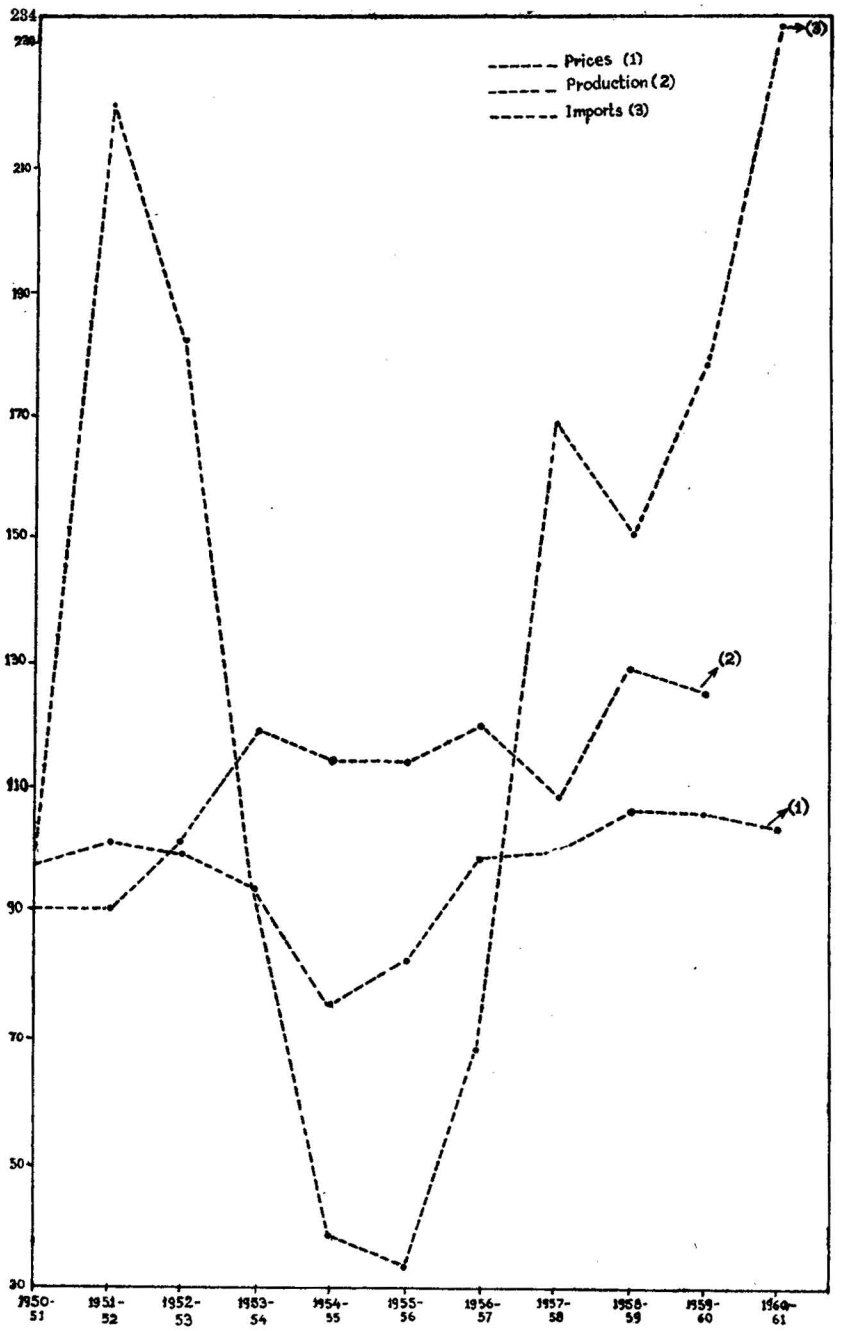
Production and Prices

One way of approaching the problem is to study the movements in cereal prices with reference to production, because, *prima facie* one would expect a direct correlation between them. Such an effort at correlation, however, is conditioned by a number of factors, both external and internal. On account of various restrictionary measures imposed like controls, procurement and formation of food zones, etc., within the country and also because of substantial imports, during this period, it may not be possible to establish any precise relationship between the two ; and yet, the effort would be rewarding to the extent that the various factors underlying the movements in prices are unfolded in the process of analysis.

The indices of production and prices of cereals are illustrated graphically on the next page. To bring out the correspondence between production and prices,[1] the price index referring to annual averages for the agricultural year has been specifically used (See Table II). However, in this note where an attempt to understand the extent of instability of cereal prices is made, it seems desirable to

1. The correlation coefficient works out to 0.015. This positive small correlation goes to indicate that the effect of production on prices was not considerable.

INDEX NUMBERS OF PRODUCTION (1949-50=100), PRICES (1952-53=100) AND IMPORTS (1950=100) OF CEREALS



refer to the March data also ; for, the annual averages may conceal within them large variations. This point becomes clear if the index for cereals in Table I is compared with that in Table II. It should also be pointed out that even if the annual averages alone are used, the broad analysis would not be materially affected. To introduce the impact of imports on the price situation, the graph showing the imports of foodgrains is also illustrated. (See Table III)

TABLE III—IMPORTS OF FOODGRAINS IN INDIA

('000 tons)

Year	Rice	Wheat	Others	Total
1950	353	1,407	465	2,125
1951	749	3,015	961	4,725
1952	722	2,511	631	3,864
1953	175	1,684	144	2,003
1954	603	197	8	808
1955	265	435	—	700
1956	325	1,095	—	1,420
1957	736	2,852	—	3,588
1958	390	2,674	109	3,173
1959	290	3,497	20	3,807
1960	688	4,316	52	5,056

The movements in production and prices of cereals indicate three distinct phases over the decade. The period 1950-51 to 1953-54 could be taken as the first phase when the production index shows a steadily rising trend from 90 to 120. On the other hand, the price index takes a somewhat uneven course, rising from 98 to 101 in the initial phase and later taking a steady downward course falling from 101 to 94. In a situation when production was rising consistently, why did the prices move in this manner ?

On the eve of the First Plan the country was in the grip of a serious food shortage and food prices in general were ruling at a high level.[2] The Korean boom, however, was essentially a raw material inventory boom, originating primarily from external factors. A more direct cause, therefore, of the rise in cereals prices was the sharp fall in the output of cereals, largely as a result of serious natural calamities in 1951, when production index declined to 90.3 The latent inflationary pressure was sought to be repressed through a system of country-wide procurement and rationing. But even the quantum of procurement declined from 4.6 million tons in 1950 to 3.7 million tons in 1951. To counteract the effect of lower production and reduced procurement, imports were stepped up to a record figure of 4.7 million tons in 1951. This had a salutary effect on prices which began to move down towards the end of 1951-52. Better crops coupled

2. See the Foodgrains Enquiry Committee Report.

with larger releases from Government stocks helped to bring down the prices during the following two years. The production index went upto 101.4 in 1952-53, *i.e.*, an increase of 12.3 per cent over 1950-51. In fact the year 1952-53 proved to be one of the most stable years.

The second phase may be said to cover the period 1953-54 to 1956-57. The production index shows a steadier course during this phase compared to the first. It registers a fall over a small range in the initial period, remains constant, and finally, moves upward so as to reach the level attained in the beginning of the phase. On the whole, since these movements can be considered as marginal, production may be said to have remained more or less at a stable level over the phase. The price behaviour during this phase, however, is characterised by wide fluctuations. Although, 1952-53 was a stable year the next year itself saw the beginning of a recession which gathered further momentum in 1954-55. There was no doubt a fall in the general price index ; but this was mainly accounted for by a fall in agricultural prices. The fall in the prices of cereals was the sharpest. Mainly, such a precipitous fall was a consequence of an unprecedented increase in production during 1953-54 when the production index for cereals went up to 120.1 from 101.4 in 1952-53.

It is interesting to note that the full impact of this increase in production was felt, with a time lag, only next year when supply seems to have outstripped demand, at least temporarily. Such an impact came about in spite of the fact that production in 1954-55 was not as good as in 1953-54; in fact, there was actually a decline in the production index from 120.1 to 114.0. Perhaps the carry-over of stocks from the previous year was large enough to continue to push the prices downwards. A reference to the rather alarming extent of the fall in prices has been made earlier. The price index of cereals actually touched the lowest ebb of 67 in May 1955.

Procurement and rationing were given up by the middle of 1954. Imports of foodgrains declined from 2 million tons in 1953, to a mere 8 and 7 lakh tons in 1954 and 1955, respectively. Issues through Government stocks also declined substantially. However, these measures were not sufficient to arrest the decline in prices and hence Government had to undertake a limited price support operation.

A reversal of the trend was initiated in 1955-56, perhaps mainly because of the short-fall in millets crop. The production index of jowar declined from 132.3 in 1954-55 to 96.7 in 1955-56, of maize from 127.5 to 112.3, of small millets from 126.8 to 105.1. Hence the upward trend in prices was led by the millets. The Government tried to control the situation by increasing releases from Government stocks. The rise in the general index seems to have been mainly owing to the rise of agricultural prices.

The 1956-57 crop was good and surpassed the peak level of production reached in 1953-54. The production index of cereals actually increased from 114.9 to 120.5 Paradoxically enough, in spite of such an increase in production, prices continued to rise. In fact the upward swing after the middle of 1955 was so sharp that by 1957, the index reached once again the level attained in 1953. Thus, during this phase the price curve is rather U-shaped.

Thus, the sharp fall in prices in the initial part of the phase and an equally sharp rise during the remaining part cannot be fully explained in terms of movements in production. The search for a satisfactory explanation has perhaps to be conducted elsewhere.

The period 1956-57 to 1960-61 may be regarded as representing the final phase of the decade. It appears that it was now the turn of production to behave rather erratically. From the record level of 120.5, the index moved down to 108 in 1957-58, but rose again to set a new record at 130 in 1958-59. Though in 1959-60, the production declined slightly, it should be noted that it was at a level higher than that of any other year.

The index of prices showed a consistent upward trend, in spite of this erratic behaviour of production. The price situation which had caused much concern during the two years 1955-57 showed some signs of improvement during the year 1958. Although increased production during 1956-57, by itself, could not bring prices under control, the stepped up rate of imports which amounted to 3.6 million tons during 1957, as compared to 1.4 million tons in 1956 came to the rescue. The cereal price index declined by about 4 points over the year ending March 1958. Of course, adoption of food control measures such as the creation of food zones, etc., also tended to tone down the price level. The relief, small as it was, however, also proved short-lived ; because by March 1959 cereal prices rose by 7 points and by 1960 by another 1 point. There was in 1957-58 a sharp fall of 10 per cent or 12 points in the production of cereals, which induced the rise in prices. Paradoxically enough even when the production set a new record during 1958-59, prices not only did not tend to fall, but continued to rise. Whereas during the First Plan, under the most favourable climatic conditions, the economy was able to produce a maximum of 68 million tons, the highest production achieved so far during the Second Plan, was 73.5 million tons. The index of cereal production rose to 129.3 in 1958-59 and declined by only 3 per cent in 1959-60. Imports during 1958 and 1959 were maintained at a high level amounting to 3.2 and 3.8 million tons respectively. However, prices of cereals continued to move upwards during 1958-59 even in the face of this improvement in the supply position ; and tended to stabilise during 1959-60.

Analytically, however, there is an interesting distinction to be noticed between the price rises in the year 1959 and 1960. Insofar as the general price index is concerned, the year 1958-59 witnessed a net rise of 6.5 per cent over the year and the bulk of the rise in prices was accounted for by the group "Food Articles." On the other hand, in 1959-60, it is significant to notice that the two groups 'Industrial Raw Materials' and 'Manufactures' contributed more to the rise in general level of prices than the "Food Articles" group. The percentage rise was 13.6 in industrial raw materials, 7.5 in manufactures, 2.8 in food articles, but only 1 in cereals. The record crop in 1958-59, followed by a fairly good crop in 1959-60, along with fairly large imports, thus delimited the rise in prices of cereals, when the general price index was rising faster.

Concluding Remarks

From this brief review of the behaviour of cereals prices during the decade, it is possible to draw some tentative conclusions. Admittedly, the analysis

has been undertaken in a very limited orbit. Factors affecting the general price level like, the supply of money, of bank credit or those affecting the demand for cereals are not brought into the discussion at all. This limitation has to be borne in mind throughout the discussion. Nonetheless, the analysis is suggestive of some conclusions.

One rather obvious point needs to be underlined. An economy like ours is highly sensitive to small changes in supply. A slight deficiency pushes up prices excessively and a small surplus manifests itself in sharp price decline. This point has to be reiterated because of the possible impact the imports can produce on the price situation.

Even a casual glance at the trends in production and prices would go to substantiate this point. One reason of the precipitate fall in prices in the year 1955 might be the very high level of imports of 4.72 and 3.86 million tons during the two consecutive years 1951 and 1952 respectively. Further, such large-scale imports were followed immediately by a record production of foodgrains in 1953-54. A cumulative effect of these two factors was perhaps reflected in the steep fall in prices in 1955.

Contrast this with the situation in 1958. Although the production in 1958-59 outstripped the level attained in 1953-54, it did not induce any fall in the prices. The price index of annual average, however, shows only a negligible fall by 1 point. Even though it is not possible to isolate other factors, one plausible explanation would be that the imports during the years 1956 and 1957 were not at as high a level as they were during 1951 and 1952.

The difference between the two levels of imports, (*i.e.*, 1951 and 1952 on the one hand and 1956 and 1957 on the other), was 3.5 million tons. Of course, this is not to suggest that this difference alone was responsible for the emergence of the two entirely different situations. In fact 3.5 million tons may appear to be a small quantity in the context of our total requirements. But it is such marginal surpluses or deficits which tilt the scale and produce disproportionate effect on the price situation. The concept of the margin is elusive enough ; it becomes more so when it has to be reduced to an operationally useful quantity. Any judicious management of buffer stocks would seem to ultimately depend upon a broad understanding of such margins.

The average annual imports for instance, during the decade amounted to about 3 million tons or hardly 5 per cent of internal production ; and yet it cannot be denied that they have influenced, in varying degrees, the price movements. This is so not merely because of the direct effects of imports, but also because of the indirect impact that imports may have on the traders and producers. The expectation of a stable or falling price level would induce the trader to go slow with his purchases, or in fact, he may tend to liquidate the stock. This is as much applicable to the farmer as to the trader. The retentions with the farmer may be reduced to the minimum in such a situation. Hence it is the totality of the effects that imports might produce, that becomes really important, for a study of the price situation.

Availability of Cereals

Even if net availability of cereals per adult equivalent unit is taken into account, it seems that the main thesis of the note is substantiated[3] (see Table V). For instance, in 1953-54 the availability of cereals exceeded 15.8 ozs. per day. This perhaps meant that the demand for cereals at the then existing levels of income was more than met and hence a marginal surplus could be said to have manifested itself. Other things being the same, this might have been a decisive factor in bringing down the cereal prices during the subsequent year.

TABLE IV—RECENT TRENDS IN PRICES

(All Commodities)

	General Index	Food Articles	Manufactures	Industrial Raw Materials	Wheat	Rice	Cereals
July 1960	125.4	124.6	120.1	138.1	92	115	110
August 1960 ..	124.9	123.5	121.7	137.2	90	115	108
September 1960 ..	125.7	123.9	121.5	140.8	90	114	108
October 1960 ..	126.4	121.6	124.3	146.9	90	111	105
November 1960 ..	125.3	119.3	124.7	146.6	90	106	103
December 1960 ..	124.2	115.0	125.7	151.9	89	102	198
January 1961 ..	126.2	116.6	127.6	156.6	91	99	99

TABLE V—NET AVAILABILITY OF CEREALS

Year	Production (gross) (million tons)	Net availability per adult equivalent unit (Oz. per day)
1950-51	41.74	13.5
1951-52	42.89	13.1
1952-53	49.22	14.1
1953-54	58.27	15.8
1954-55	56.18	15.3
1955-56	54.92	14.8
1956-57	57.25	15.5
1957-58	53.00	14.8
1958-59	62.63	16.8
1959-60	60.51	16.2
1960-61	67.5**	18.1

Note : The net availability of cereals per adult equivalent unit per day is worked out in this manner ; from the gross production a deduction of 12½ per cent is made to provide for seeds, wastage, etc. Imports (+), exports (—), changes in stock with the Government (±) is also taken into account. The total population is converted into adult equivalent units at 85 per cent.

** Production of rice and wheat for 1960-61 is estimated at 32.5 million tons and 12.2 million tons, respectively. Proportion of production of coarse cereals to total foodgrains production for 1960-61 is assumed to be the same as for 1959-60.

3. See Footnote to Table V, for the method of calculation of net availability.

By 1958-59, the availability, no doubt, was higher than 16 ozs. per day. In spite of this if the prices did not decline precipitously, perhaps the explanation has to be found elsewhere. The general levels of income being relatively higher during this year than, say, during the initial years of the First Plan, an absolute increase in the demand for cereals particularly at the lower strata of the population could have taken place.

In 1960-61, the situation has further improved substantially. Even at the level of 438 million population, the per capita availability of cereals works out at 17.5 ozs. per day. This does go to suggest that a situation of relative adequacy has actually emerged.

Recent Trends and Outlook

This conclusion is further corroborated, as it were, by more recent trends in cereal prices. During the year 1960, nearly 5 million tons of foodgrains (wheat and rice) have been imported. Since July 1960, 4 lakh tons are being imported every month. What is the impact of such large-scale imports on the price ?

It is clear from Table IV that between July 1960 and January 1961, the general index of prices has risen slightly by 1 point. In the case of manufactures and industrial raw materials, there is evidenced a substantial rise of 7.5 and 17.5 points respectively. On the other hand, there is an actual decline of 8 points in the case of "food articles" in general and 11 points in the case of cereals in particular. Such a rather sharp decline needs to be viewed with concern, because, as contra-distinguished from the price fall in 1955, the present trend is not preceded by a year of peak production. In fact, the production of cereals actually declined from 626 lakh tons in 1958-59 to 605 lakh tons in 1959-60. It could, therefore, be said with a reasonable degree of confidence that the decline that has come about is largely attributable to imports.

The rate of such a decline is likely to be accelerated further on account of the fact that the 1960-61 crop is expected to set a new record in respect of foodgrains production. It is estimated that the production of foodgrains would be more than 76 million tons, with particularly, record crops of rice (336 lakh tons) and wheat (122 lakh tons).

This trend, if it persists, and there are indications that it may, poses the larger question of averting a fall in the prices of cereals during the period of the Third Plan.

In the first place, the estimates of demand for foodgrains during the Third Plan seem to be rather on the high side. Even on the basis of the 1961 Census, the population in 1966 is expected to be 490 million. Converting into units of adult equivalent consumers, by taking children below 10 years as equal to one-half consumer unit the total figure would be 416 million. On the basis of 18 ozs. of foodgrains (15 ozs. of cereals and 3 ozs. of pulses) per day per each adult equivalent consumer unit, the total demand for food in 1966 would be of the order of 76.4 million tons, a year. Making the usual allowance for requirements of seed, cattle feed and wastage, total demand for food at the end of the Third Plan may be more realistically put at 87.3 million tons, rather than at 100 million tons

as envisaged in the Plan. Viewed from this perspective the prospects of attaining this level of production by 1965-66 seem to be fairly good. During the initial years of the Third Plan especially, the rate of increase may be relatively faster. A number of schemes which have been initiated in the Second Plan may tend to 'mature' during this period. Fuller use of irrigation potential created is a good and conspicuous instance in point. The entire country will be covered by extension services by 1963. Similarly, several other measures of agricultural development like the adoption of improved farm practices or even extension of credit, etc., may be gradual in their process of percolation; so that, their cumulative effect can be felt only after a time-lag. It may, therefore, be surmised that the backlog of improvements may manifest itself fully in the Third Plan.

With this kind of an outlook for the Third Plan, it would not be altogether surprising if the large-scale imports of more than 4 million tons per year during the years 1960-64 create a situation in which the operation of some kind of price support may become imperative. Though one might argue that this conclusion is rather tendentious, it cannot be disputed that there should be, on the part of the Government, a certain preparedness to meet the situation, if it does nevertheless arise. Let there be no misunderstanding. It is certainly not contended that a situation of supply exceeding demand by a comfortable margin would prevail during the entire Third Plan period. All that is sought to be stressed is that the possibility of a sense of *relative adequacy* of supply at any point of time bringing about a somewhat sharp fall in prices cannot be altogether ruled out. This is particularly relevant to cereals other than rice.

To correct the adverse price situation effectively and promptly, the State may have to enter the market as a buyer. The extent to which such operations could be conducted successfully depends upon the soundness of administrative arrangements and the creation of the necessary facilities for storage and transport. As it is, such operations, may be handicapped by the physical limitations of storage. At present Government owned and rented godowns accommodate two million tons of foodgrains ; an additional capacity of three million tons will be added before the end of the Third Plan. The aim also seems to be to build up a buffer stock of 5 million tons. Hence, apart from other problems, for undertaking buying operations, the primary factor of inadequacy of storage may prove to be a bottleneck.

Regional Prices

The reference throughout has been to the all-India average prices. The variations in prices in individual centres in different regions are so large as to need some correction. Obviously, this fact is indicative of lack of mobility and integration in the Indian economy. A growing degree of indistinguishability has, ultimately, to be ushered into the levels of regional prices. However, this aspect should, itself, form the subject matter of an independent study.

N. A. MUJUMDAR