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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 NUMBER 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.

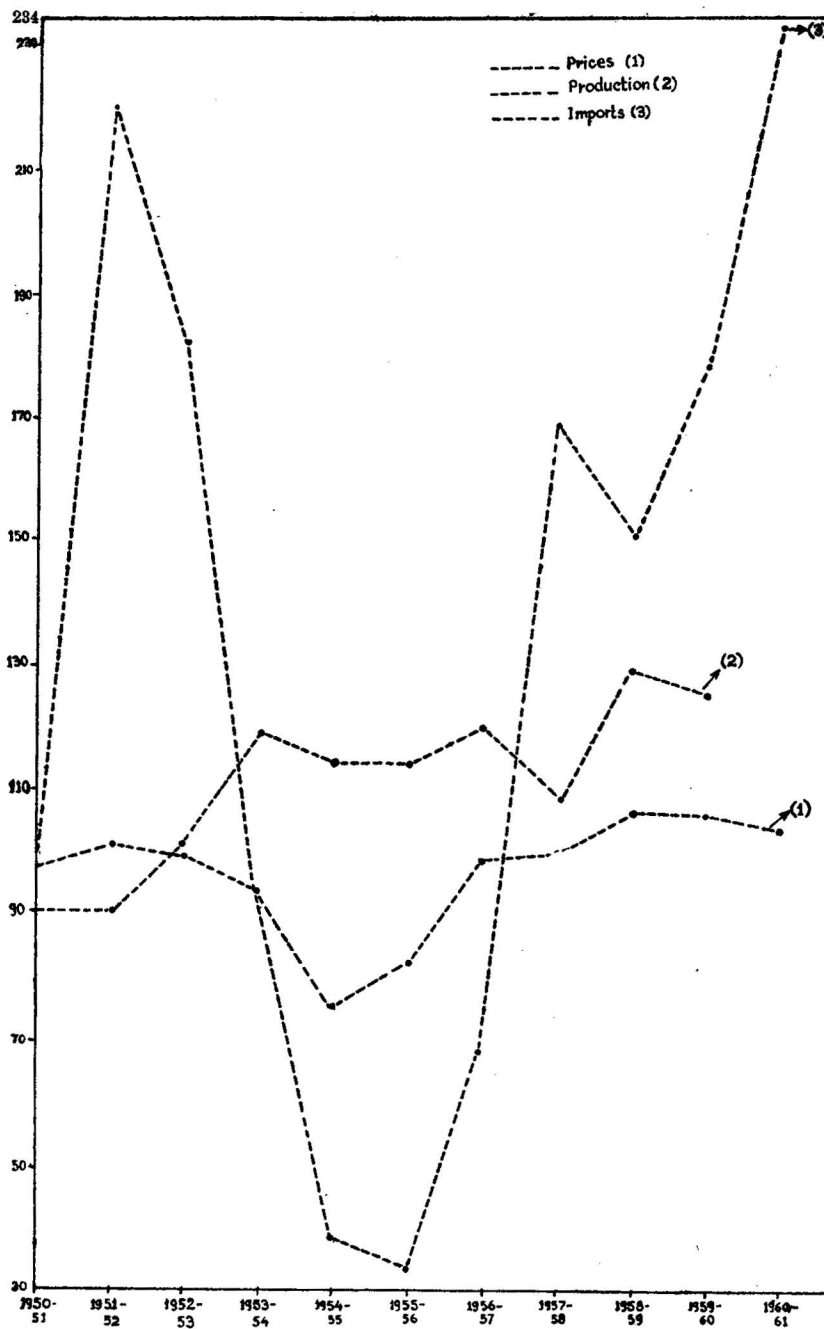
Production and Prices

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 substantiated³ (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.

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