

Gokhale Institute Studies No. 48

IMPACT OF ASSISTANCE UNDER P. L. 480  
ON INDIAN ECONOMY

1911

1912



**IMPACT OF  
ASSISTANCE UNDER  
P. L. 480  
ON INDIAN ECONOMY**

**NILAKANTH RATH  
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**ASIA PUBLISHING HOUSE  
BOMBAY · CALCUTTA · NEW DELHI · MADRAS · LUCKNOW  
BANGALORE · LONDON · NEW YORK**

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1967

PRINTED IN INDIA

BY D. V. AMBEKAR AT ARYABHUSHAN PRESS POONA,  
AND PUBLISHED BY V. M. DANDEKAR,  
GOKHALE INSTITUTE OF POLITICS AND ECONOMICS, POONA.

## FOREWORD

The present study was undertaken on behalf of the United States Department of Agriculture. Beginning with August 1956, India entered into a series of agreements with the United States providing for the import of surplus agricultural commodities, chiefly wheat, under the United States Public Law 480. Beginning with the middle of 1956 to the end of 1962, which is the period covered by this study, India imported Rs. 6,860 million worth of agricultural commodities under these agreements. The main concern of the present study is to examine the impact of these imports on the consumption, production and prices of the relevant commodities in the domestic market.

The impact on consumption was the most direct and therefore the one easiest to assess. The imports were a net addition to the total supplies and though a large part of them was purported for building stocks, in fact, all were consumed. Thus the imports were a net addition to consumption. Hence consumption improved and continued to be in excess of the domestic production. As the authors point out, in the absence of any improvement in the domestic production or in the capacity of the country to pay for the imports, such improvement in consumption could only increase and make chronic the dependence of the country on external food assistance.

In view of the large fluctuations in the prices of food-grains during this period and especially the wide differences in the prices in different parts of the country, the impact of the imports on the relevant prices is somewhat difficult to assess. Nevertheless, the authors have put forward sufficient evidence to indicate that during this period the prices of food-grains, particularly of wheat, remained relatively depressed. This was of course to be expected. However, its implications are often not realized or explicitly admitted. This meant, as the authors point out, that the entire programme, whatever its merits, was being carried out at the expense of the domestic producer of food-grains, especially of wheat.

If this situation were allowed to continue indefinitely, it would undoubtedly have serious repercussions on the domestic production of food-grains. However, within the limits of their analysis, the authors did not find sufficient evidence to this effect. In the first instance, because of the sharp fluctuations in production and prices between 1956 and 1960, any possible impact of the relatively depressed food prices on food production could be felt only after 1960, and the period covered by the study after 1960 was too short for this purpose. Secondly, the increase in food production, especially in wheat production, during the decade preceding 1962, was mainly on account of extension of cultivation to new areas. This would naturally be less affected by relative prices of food-grains. Consequently, within the limits of their study, the authors did not find sufficient evidence to show that the food imports affected

the domestic food production in any adverse manner. The authors have emphasized the limitations of their analysis and have warned that it would be wrong to conclude from the analysis that the food imports would not adversely affect the domestic production even if they were allowed to depress the domestic food prices over a longer period.

The impact of the food imports has been the greatest and the most serious on the food policy of the government. With this in mind, the authors have devoted a separate chapter to review the food policy in the past. As is clear from their account, since the very beginning of the food problem in 1943, the essentials of a food policy were fully recognized, namely, that so long as the supplies were short of requirements, the available supplies must be distributed equitably and that this would require procurement of supplies on the one hand and their regulated distribution on the other. If, over the years, the policy was not adhered to steadfastly, it was not for lack of understanding but because of the common failing to look for easier solutions in difficult times and to relax in relatively easier times. The years 1952-53 and 1953-54 were good. Production was large, supplies were ample and prices of food-grains were falling. Therefore, the government had relaxed. By middle of 1954, it had abandoned all elements of a food policy and had dismantled all apparatus to implement any. Of course, the government was aware that these easy times could not last long and that, sooner or later, it would be necessary to revert to procurement and regulated distribution. It was at this juncture that the existence of surplus food stocks in the United States became known and the government immediately saw in these stocks the solution to the food problem of the country. The solution lay in procuring food-grains in the United States rather than in the domestic market and in distributing them not in a regulated manner, because that could cause a feeling of scarcity, but in a manner which would create a feeling of abundance. Therefore, in May 1955, when the prices of food-grains in the country were the lowest in recent years, rather than trying to procure and stock from local production, the government initiated negotiations with the government of the United States which led to the first agreement, signed in August 1956, to import food-grains under P.L. 480. The strategy was to import massive quantities of food-grains from the United States, release them on the domestic market through a system of fair price shops and thus bring the food situation under control through creating, what was called, a psychology of abundance. The psychology of abundance certainly prevailed in the government and quite understandably the government decided to share that happy feeling with the people.

The Food-grains Enquiry Committee which was appointed a year later, namely in 1957, fully endorsed the government's policy in relation to the food imports under P.L. 480. In particular, the Committee appreciated the point of view of the food administration, namely, that it was easier to procure food-

grains in the United States than in the domestic market. For instance, the Committee observed, "From the point of view of food administration, import has a certain advantage over procurement. All the imported grain comes into the hands of the authorities and the entire amount is available for distribution. On the other hand procurement can only be a fraction of the production." Also the Committee did not fail to take note of the special concessional terms on which imports under P. L. 480 were available, and especially of the manner in which the sales proceeds of the imported commodities would be available for government's spending. The Committee observed, "We feel that it would be to our advantage to take fairly large quantities of wheat and some quantities of rice from the U. S. A. under P. L. 480. For imports under such concessional terms not only relieve us of our immediate foreign exchange commitments but also help us to build a rupee fund which can be utilised for development purposes." Indeed, what the Committee meant was that when rupee resources were needed for development purposes, or for that matter for any public expenditure, it was easier for the government to raise them by selling imported wheat on the domestic market rather than through taxation and borrowing. That this would be an important consideration for many developing countries seeking aid under P. L. 480 was clearly indicated in a report made in 1960 to the government of the United States by their consultants on International Finance and Economic Problems. For instance, the report observed as follows: "In some countries, local governments lack sufficient strength and the stability adequately to finance their expenditures by taxes and sound borrowing. In such cases the sale of U. S. aid commodities for local currency can provide the local government with funds needed to run its domestic affairs. In Vietnam for example, the sale of U. S. aid commodities for Vietnamese currency provides local government with roughly two thirds of its revenue receipts. The situation in Laos and Cambodia is quite similar". The Government of India of course did not need any persuasion on this point and readily agreed with the opinion of the Committee.

There was, however, one natural difference between the approach of the government and the approach of the Committee. As mentioned above, the government saw in the surplus food stocks in the United States a solution to the immediate food problem of the country. On the other hand the Foodgrains Enquiry Committee, with its broader perspective, saw in these stocks, the prospects of formulating a stable and long-term food policy for the country. The Committee observed: "That assured supply of foodgrains from abroad would enable the formulation of a stable and long-term food policy needs no emphasis. In fact, assurance of continued imports of certain quantities of foodgrains will constitute the very basis of a successful food policy for some year to come." Thus began the era of a food policy founded on food aid. This was the most important of all the impacts of the food imports under P.L. 480.

In pursuance of this policy, the government set up a network of over 50,000

fair price shops all over the country and over the period of next seven years, the country developed an absorptive capacity to absorb about four million tons of imported wheat annually—two million tons through the fair price shops and two million tons through the roller flour mills. The policy had two objectives: (1) to bring down the price of food-grains in the domestic market, and (2) to protect the vulnerable sections of the population from the high prices of domestic food-grains. As the authors have indicated, the government succeeded in bringing down the prices of food-grains relatively to other prices. There was, however, little evidence of the government's having established a commanding or a controlling position in the domestic food market. Prices of food-grains continued to fluctuate widely between different regions and between different periods throughout these years. However, there was an important difference. Whenever and wherever the prices of domestic food-grains rose and went beyond the reach of the poorer sections, cheap imported food-grains were available. As mentioned above there were established a large number of fair price shops all over the country. Imported food-grains were available through these shops at a fixed price, considerably below the prices of domestic food-grains. They were available to anybody who needed them at that price and they were available in sufficient quantities. Hence, though the government could not establish for itself a commanding or a controlling position in the food-grains market, it did succeed, for a while, in its second objective, namely, to protect the poorer and vulnerable sections of the population from the relatively high prices of domestic food-grains. It seemed that the policy had established itself through serving a worthwhile purpose. This was the situation at the end of the period covered by the present study.

That the policy could not be sustained for long became clear very soon thereafter. On account of two successively poor harvests combined with other factors operating in the economy, the prices of food-grains began to rise from August 1963 and the demand on the fair price shops soon exceeded the supplies. Throughout 1964, the prices of domestic grains continued to rise, and an increasingly larger number of persons began to take recourse to the fair price shops. To meet their demand, the number of fair price shops had to be almost doubled. By the end of 1964, there were more than 100,000 fair price shops in the country, and, in that year, the country absorbed nearly seven million tons of imported wheat. However, even this massive release of imported stocks on the domestic market made little impression on the prices of domestic grains. It was evident that the character of the food market in the country being what it was and the nature of the economic pressures being what they were when a country was executing a large development programme, mere release of even additional food supplies on the food market at a fixed and low price did not succeed in reducing the pressure on prices. Such additional supplies could not also protect the poorer or vulnerable sections of the population because with every rise in the prices of food-grains, the so-called

“poorer and vulnerable” sections became larger and larger until the fact was made public that the entire country was poor and vulnerable. Serious doubts thus began to be felt about the policy which looked so well-established just two years ago.

In the following year, namely in 1965, the policy received even a ruder shock. In fact, it was shaken in its very foundations, for it suddenly became clear that the food supplies under P.L. 480 on which it was so securely founded, were not after all so dependable. The circumstances in which this was made known and the manner in which the government of the country reacted to the challenge, made it clear beyond a shadow of doubt that the country had come to depend on such food supplies to the point of national humiliation. This it seems has been the most certain of all the impacts of the food imports under P.L. 480 and it was all achieved within ten years of the signing of the first agreement in August 1956. These developments were, of course, outside the scope of the present study and must be pursued in a follow-up volume.

*Gokhale Institute of  
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September 16, 1966.*

V. M. DANDEKAR

## PREFACE

This study was undertaken by the Gokhale Institute on behalf of the United States Department of Agriculture in July 1962, to examine the impact of P. L. 480 imports in India, particularly on the consumption, prices and production of the commodities involved. It was completed in April 1964, and is being published with only minor alterations.

We should like to take this opportunity to thank all those who helped us in numerous ways. In particular, we are thankful to the Directorate of Economics and Statistics and the Department of Food of the Ministry of Food and Agriculture, New Delhi, for their unstinted help and co-operation in making a variety of unpublished data available to us. Our thanks are also due to the Regional Food Controller, Bombay, the Director of Civil Supplies, Maharashtra, as well as the Governments of Maharashtra and Gujarat for their co-operation.

The comments made by the Foreign Agricultural Service of the U. S. D. A. on the report sent to them were helpful in the preparation of the final version.

We also thank Dr. A. V. Desai for making some useful suggestions.

The work was carried out with the help and assistance of a group of workers at the Institute, Dr. A. P. Kulkarni, Shri R. K. Koti, Shri R. D. Tendulkar, Shri Y. Ramakrishna Rao and others, without whose sustained and enthusiastic participation it would have been difficult to complete it.

Naturally, we have freely sought and abundantly received advice, suggestions and comments, at every stage of this work, not only from Professor D. R. Gadgil, Professor V. M. Dandekar and Professor N. V. Sovani, but also from a number of our colleagues at the Institute. In the nature of things, it would be rather uncustomary to acknowledge our obligations to them publicly; in any case, no such act can adequately express our indebtedness to them.

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October 12, 1966.*

N. RATH  
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## CHAPTER I

### INTRODUCTION

India entered into an agreement with the United States in August 1956 to receive surplus agricultural commodities from the U. S. A. This was the first agreement under Title I of the U. S. Agricultural Trade Development and Assistance Act of 1954 (also known as Public Law 480, and referred to hereafter as such) and was followed by 7 agreements upto the end of December 1962. Through these agreements, India was authorized to receive agricultural commodities worth Rs. 1,156 crores. Of this, commodities valued at Rs. 686 crores had been received by the end of 1962. The purpose of this study is to analyse the impact of imports under Title I of P. L. 480 till the end of December 1962 on the Indian economy.

#### *Size of P. L. 480 imports*

The agreements upto December, 1962 provided for import of a variety of agricultural commodities, the most important amongst them being foodgrains, mainly wheat. The last three agreements signed in May and November 1962, provided for import of cotton in the main. For the purpose of our study these agreements are ignored, inasmuch as imports under these are assumed to reach India, for the most part, after 1962.

The value of imports authorized under the first five agreements was Rs.1,113 crores (inclusive of ocean transportation costs). Nearly 90 per cent of this was for foodgrains, chiefly wheat; cotton accounted for 8.0 per cent only and the rest were of relatively minor importance.

Between 1956 and 1962, imports of wheat under P. L. 480 (Title I) amounted to nearly 80 per cent of India's total wheat imports. Imports of rice under P. L. 480, which were significant since 1960, amounted to 45 per cent of total rice imports, and cotton imports under P. L. 480 amounted to 47 per cent of total cotton imports. Thus in the context of total imports of wheat, rice and cotton, imports under P. L. 480 were also very important.

In terms of India's production of these commodities, the two important imports under P. L. 480 were wheat and cotton. Since 1956 annual average wheat imports under P. L. 480 were equal to 28 per cent of India's production, and cotton imports over 7 per cent. P. L. 480 rice, on the other hand, was equal to only about half of one per cent of India's production.

Therefore, the largest and most significant import under P. L. 480 was wheat, followed by cotton.

*The genesis of the Agreement*

In the U. S. A., P. L. 480 was originally conceived from the standpoint of foreign economic relations. Its objectives were :

- (1) To make maximum efficient use of the surplus agricultural commodities in furtherance of the foreign policy of the United States.
- (2) To expand international trade between the U. S. A. and friendly countries.
- (3) To facilitate the convertibility of currency.
- (4) To stimulate and expand foreign trade in agricultural commodities.
- (5) To encourage economic development.

Title I of the P. L. 480 provides for sale of surplus agricultural commodities for foreign currencies and the utilization of such currencies in the recipient countries for economic development.

It is necessary to understand the Indian background of the first Agreement entered into in August 1956. The food situation in India since the middle of the Second World War was marked by severe shortages. This led to imposition of strict measures of price control and rationing and dependence on large scale imports of foodgrains. The period 1952 to 1955 was marked by the gradual relaxation of controls. By the end of 1954 rationing had been withdrawn; residual vestiges of control such as restrictions on movement of foodgrains, were completely removed in March 1955. It was possible to withdraw all restrictive or regulatory measures in 1955 because of successive good crops of cereals in the preceding three years. The Index of production of foodgrains (base 1949-50) had risen from 90.5 in 1950-51 to 119.1 in 1953-54. Actually, 1953-54 was an year of record production for the post-independence period. The imports consequently dwindled. The disappearance of immediate short-run difficulties and the comparatively easy supply position in 1954-55 enabled the Government of India to explore the possibilities of building up reserve stocks to meet exigencies in future.

The need for reserve stocks of foodgrains was two-fold : (1) India's food production was subject to severe seasonal fluctuations. They were bound to cause acute price rise and economic distress. It was, therefore, necessary to have enough stocks with the government to meet these periodic shortages. Such stocks had to be built up mainly by imports because the production during the years of control was inadequate to enable any carryover of surplus grains. The level of production even in favourable years was not considered high enough to contribute sizeably to the building up of stocks for meeting requirements of lean years. (2) India had launched a programme of planned economic development. This was sure to generate inflationary pressures that might be felt more in the foodgrains sector than elsewhere. Therefore, fighting the inflationary pressures under development planning until such time when domestic production caught up with the demands generated through developmental expenditure, was a task that government sought to

fulfil by means of reserve stocks to be built out of imported foodgrains.

These considerations were uppermost in the minds of the Government of India and the Planning Commission<sup>1</sup> when the Indian Government entered into negotiations with the Government of the U. S. A. in May 1955 for imports of agricultural commodities, mainly foodgrains, under P. L. 480. The rather longdrawn out negotiations ended in agreement in August 1956, by which time the immediate need for such imports and stocks had begun to be felt. Since then these imports have come to play a central role in the food policy of the Government of India.

### *Approach of the Study*

From what has been said above, it would be clear that any study relating to the impact of P. L. 480 imports into India has to devote its attention mainly to the consumption, prices and production of foodgrains, chiefly of wheat in India.

The food economy in India during the period of P. L. 480 imports has been subject to various regulations. Imports of foodgrains have been the sole responsibility of the Indian Government. In the storage, distribution, allocation and pricing of imported foodgrains also private trade has been excluded, except for the authorized retailers and the roller flour mills. The Government of India in co-operation with the State Governments has undertaken the full responsibility of handling imported foodgrains. The stocks with the government have consisted of wheat and rice. Wheat stocks have been built up chiefly with the help of imports, and rice stocks largely with the help of internal procurement. The aim of food policy since 1955 has been to control foodgrain prices from unduly rising. For this purpose government has been directly selling grains to consumers from its stocks at fixed prices at various times and places, through a chain of fair price shops. This direct sale of grains is consequently expected to affect the market price of domestically produced foodgrains sold to consumers through normal trade channels, as well as provide some relief to distressed areas and groups. Two distinct mechanisms for marketing foodgrains have, therefore, come into operation. In one the imported or state procured grain from government stocks is sold at fixed prices to consumers through licensed fair price shops; and in another, domestically produced foodgrains are sold through normal trade channels at open market prices. To facilitate this arrangement, as well as to exercise some direct control on prices of domestically produced foodgrains, the government has also taken some

<sup>1</sup> "Agricultural production may fall short of the mark for reasons beyond human control. Other bottlenecks may emerge. There is always a certain lag between the creation of new incomes and the increase in available supplies on which they can be spent. . . . The maintenance by Government of an adequate foodgrains reserve at all times so as to be able to meet an adverse situation effectively and promptly is a necessary safeguard against the inflationary pressures implicit in a big developmental programme." *Second Five Year Plan*, Government of India, Planning Commission, New Delhi, 1956, pp. 39-40.

ancillary administrative measures from time to time for regulation of private trade, its stocks and movements, like zonal restrictions on movements of grain, occasional fixation of maximum prices, restriction of credit against stocks of foodgrains, licensing of dealers in grains, etc. All these measures have been in operation simultaneously during the period of P. L. 480 imports. In view of the comprehensive character of the Government's food policy in which import under P. L. 480 has been an important control weapon, it is necessary to review the entire food policy and the various regulatory measures in order to assess the impact of imports of foodgrains under P. L. 480.

It would, in particular, be our endeavour to find out how the P. L. 480 imports in the context of the various governmental policy measures, affected the domestic consumption, prices and production of the grains involved, mainly wheat.

The other important commodity besides wheat, to which attention need be given, is cotton. Unlike in case of foodgrains, P. L. 480 cotton is imported by private trade under permission from Government. But the Government has exercised considerable control on stocks and uses of P. L. 480 imports. Therefore, attention has to be given to the impact of imports of cotton on its prices, consumption and production.

The P. L. 480 imports are basically a part of the foreign assistance that India has been receiving for her plans of economic development. The important feature of these imports is that India is not required to pay for them in dollars. The Indian government pays to the U. S. Embassy in India an amount in rupees equivalent to the market value in dollars of commodities received from America under the agreements. The P. L. 480 agreements generally lay down the manner in which these sums, known as counterpart funds, are to be used. Bulk of the funds are to be made available to the Government of India, as loans or grants, for expenditure on different development projects in India. A part of it is to be advanced to industries in the private sector in India, either promoted by American firms or with American collaboration. The residual funds are earmarked for U. S. Embassy uses in India. The U. S. Embassy in the first instance deposits the counterpart funds with the Reserve Bank of India, who invest them in Government of India securities. Subsequently, the Embassy transfers agreed sums for specific projects either in the public or private sector, as and when specific agreements to the effect are reached. In India's plans of economic development, therefore, P. L. 480 funds become significant. Besides, the manner of the accumulation and utilization of these sizeable monetary funds would be of importance in the context of the total money supply in the economy.

Similarly, in a developing economy where foreign exchange resources are a severe bottleneck, it would be necessary to examine these imports in the context of the country's balance of payments. The large imports might also affect India's trade with other countries which have been the normal sources of supply of such commodities.

The study would, therefore, begin with a brief picture of the overall impact of the assistance under P. L. 480 on the total economy, to be followed by a detailed examination of the individual commodity impact. The plan of the report is as follows.

Chapter II will be devoted to an examination of the role of the assistance under P. L. 480 in India's total development expenditure, the impact of its financial operation on money supply and the manner in which it has affected India's balance of payments and her pattern of trade.

Chapter III will serve as an introduction to the detailed analysis of the commodity impact. It will give a brief account of the import of the individual commodities, mainly foodgrains, the mechanism and extent of their marketing, the building of stocks, etc.

The subsequent chapters will be devoted to a detailed analysis of the food policy of the Government of India in the context of P. L. 480 imports, and its consequences.

Chapter IV will be devoted to a review of the food policy of the Government of India during the period of P. L. 480 imports. Chapter V will present an analysis of the trends in consumption of different cereals in the country during these years, and the role of P. L. 480 imports in it. Chapter VI will be concerned mainly with an analysis of the trend in prices of cereals and the effects of various governmental policy measures, including the issue of P. L. 480 grains on them. Chapter VII will relate to the trends in production of cereals, and the impact of prices on their production. In Chapter VIII the cotton imports under P. L. 480 will be examined in relation to total production, prices and consumption of cotton in India.

The last chapter will contain certain concluding remarks on the overall perspective of the role of P. L. 480 imports, arising out of the detailed study of such imports during the period from 1956 to 1962.

## CHAPTER II

### THE OVERALL IMPACT

#### *Investment of P. L. 480 funds*

The imports under P. L. 480 have continued since 1956 through the years of the Third Five Year Plan so far. They have made considerable additional real resources available to India for investment in the economic development of the country.

The P. L. 480 agreements stated the total assistance in terms of dollars, to be converted into the individual commodities at ruling market prices at the time of purchases. Table 2.1 shows the value of imports authorized under the various P. L. 480 agreements, till November 1962. The five agreements, signed till May 1960, authorized India to import various agricultural commodities worth Rs. 1,113 crores.<sup>1</sup> By the end of the Second Five Year Plan India had utilized Rs. 515 crores of this sum, leaving Rs. 598 crores to be utilized; the subsequent three agreements upto November 1962 provided for further import of commodities worth Rs. 43 crores thus enabling India to import commodities valued at Rs. 641 crores during the period of the Third Five Year Plan. In the first year and a half of the Third Plan, India had utilized a further sum of Rs. 171 crores,—a total of Rs. 686 crores by the end of 1962. Another Rs. 470 crores remained to be utilized in the remaining three and half years of the Third Plan.

India purchased the agreed commodities with this financial assistance, in the United States, and as soon as they were shipped to India, she made payments in rupees for them to the American Embassy in India. The various P. L. 480 agreements also laid down the manner in which these counterpart rupee funds were to be used. From Table 2.1 it is seen that nearly 80 per cent of the total rupee funds were to be given to the Government of India as loans or grants for expenditure on agreed projects of economic development, 13 per cent were to be set aside for U. S. Embassy expenditure in India, and another 7 per cent were to be used for giving assistance to private American enterprise in India. Thus, 87 per cent of the rupee funds were to be used for development expenditures in India, the bulk of it in the public sector.

In point of fact, by the end of November 1962 (upto which time the data are available) agreements for specific allocation of funds had been made for Rs. 451 crores out of a total of Rs. 686 crores which had accrued. Out of this Rs. 375 crores related to specific project-wise agreements for loans and grant, with the Government of India, and the remainder was the actual disbursement

<sup>1</sup> This also includes the ocean transport cost in U. S. ships.

Table 2.1 : *Particulars of P. L. 480 Agreements signed with the U. S. Government through November 1962*

Date of Agreement	Commodities	Value in \$ million	Agreed manner of disposal of accrued funds ( in \$ million )			
			Loans to Government of India	Grants to Government of India	Retained for U. S. uses in India	Cooley Amendment loans
1	2	3	4	5	6	7
1. 29 August 1956	Wheat, rice, cotton, tobacco and dairy products	354.5	226.2 ( 63.8 )	54.0 ( 15.2 )	74.3 ( 21.0 )	—
2. 23 June 1958	Wheat, corn, Sorghum	55.3	33.4 ( 60.4 )	—	8.1 ( 14.7 )	13.8 ( 24.9 )
3. 26 September 1958	Wheat and Yellow corn	259.8	129.7 ( 49.9 )	37.5 ( 14.5 )	27.6 ( 10.6 )	65.0 ( 25.0 )
4. 13 November 1959	Wheat, rice, cotton, tobacco and corn	297.8	119.1 ( 40.0 )	119.1 ( 40.0 )	44.7 ( 15.0 )	14.9 ( 5.0 )
5. 4 May 1960	Wheat, rice, milo, corn, cotton, tobacco and soybean oil	1,369.8	577.6 ( 42.2 )	577.6 ( 42.2 )	146.1 ( 10.7 )	68.5 ( 4.9 )
	Total of above five agreements ( million \$ )	2,337.3	1086.0 ( 46.5 )	788.2 ( 33.7 )	300.8 ( 12.9 )	162.2 ( 6.9 )
	( Rupees Crores )	1,113.00	517.14	375.33	143.25	77.28

THE OVERALL IMPACT

Table 2.1 : *Particulars of P. L. 480 Agreements signed with U. S. Government through November 1962*

Date of Agreement	Commodities	Value in \$ million	Agreed manner of disposal of accrued funds ( in \$ million )			
			Loans to Government of India	Grants to Government of India	Retained for U. S. uses in India	Cooley Amendment loans
1	2	3	4	5	6	7
6. 1 May 1962	Tobacco, yellow corn and cotton	39.3	35.0 (89.0)	—	3.9 (10.0)	0.4 (1.0)
7. 26 November 1962	Cotton	46.6	39.6 (85.0)	—	4.7 (10.0)	2.3 (5.0)
8. 30 November 1962	Milk powder, cheese and canned fruit	5.1	4.3 (85.0)	—	0.5 (10.0)	0.3 (5.0)
Total of all 8 agreements ( million \$ )		2,428.3	1,164.9 (48.0)	788.2 (32.4)	309.9 (12.8)	165.2 (6.8)
( Crores Rupees )		1,156.33	554.72	375.33	147.59	78.69

1. The approximate value of commodities imported against the agreements was Rs. 686.6 crores by the end of December 1962. At the end of the Second Plan i. e. March 1961, the value of commodities imported was Rs. 515.3 crores. For details see table 2-3.

2. Figures in brackets are proportion to total value in Column 3.

3. The ocean transportation cost for the first five agreements was estimated at \$ 351.2 million ( Rs. 167.26 crores ) and for all the eight agreements at \$ 356.6 million ( Rs. 169.78 crores ), and is included in the above figures.

Source : *External Assistance 1962*, Department of Economic Affairs, Ministry of Finance, Government of India.

for U. S. Embassy uses (inclusive of third country assistance) and transfers to the Cooley Fund account for aid to private industry.

Thus, nearly two thirds of the total rupee funds had been allocated by November 1962. But the amount actually spent on the agreed projects was still smaller. In case of funds for U. S. Embassy use (and third country assistance), and Cooley funds, the allocations and disbursements are considered to be the same; the money is transferred to these accounts, whether spent immediately or in stages. In the case of the allocations to the Government of India, only Rs. 214 crores out of the total allocation of Rs. 375 crores, (57 per cent only), had been drawn for expenditure on the specific projects. Table 2.2 gives the details of the allocations and drawals by the Government of India, while Table 2.3 gives the financial year-wise accruals of counterpart funds and disbursements to various parties. While financial year-wise data on allocations were not available, comparison of the data in the two tables brings out the slow pace of use of the counterpart funds for specific projects. Taking the Second Plan period into account, we find that while Rs. 515 crores had accrued as counterpart funds by the end of March 1961, nearly 73 per cent of it remained undisbursed. Indeed, the early years of accruals of P. L. 480 funds saw not much allocation and very small disbursements for specific purposes. For example, against Rs. 330 crores of counterpart funds, accrued by end of March 1960 (Table 2.3), specific allocation agreements had been signed for only Rs. 150 crores, and actual disbursements to all parties amounted to about Rs. 62 crores only (Table 2.2). In the later years both allocations and disbursement speeded up somewhat. At the end of November 1962 total disbursements formed 42 per cent of total accrued funds. It was not possible for us to ascertain the reasons for this slow allocation and even slower disbursements.

The slow disbursement of counterpart funds, however, does not imply that the bulk of the funds remained unutilized. In actual practice, these rupee funds are invested in Government of India securities and, therefore, form a part of the total resources available to the Government for expenditure on projects of development. Since the loans and grants are made to the Government of India for expenditure on specific projects in the plan, the allocations imply only earmarking of P. L. 480 funds to specified projects, and to that extent transfer of the general unspecified resources at the disposal of the Government, to such heads of expenditure.

We shall, therefore, first examine, total P. L. 480 resources in the context of the Indian Plans and then the nature of the investments of whatever funds had been allocated and disbursed.

During the Second Five Year Plan (1956-61) there was a total investment of Rs. 6,750 crores in the public and private sectors. In the Third Plan period this was estimated to be Rs. 10,400 crores.

Table 2.2 : Progress of allocation and drawals of loans and grants through Government of India

( Rupees in crores )

	Total	Irrigation and Power	Financial Corporations	Public Health, Social Services	National Highways	Fertilizer Plant	Food Storage
<b>As on 30 November 1960</b>							
<i>Allocations</i>	150.84	92.07	46.20	12.57	—	—	—
loans	132.33	86.13	46.20	—	—	—	—
grants	18.51	5.94	—	12.57	—	—	—
<i>Drawals</i>							
loans	60.76	55.76	5.0	—	—	—	—
grants	1.73	—	—	1.73	—	—	—
<b>Total Drawal</b>	<b>62.49</b>	<b>55.76</b>	<b>5.0</b>	<b>1.73</b>	<b>—</b>	<b>—</b>	<b>—</b>
<b>As on 31 December 1961</b>							
<i>Allocations</i>	289.61	169.66	46.20	29.97	20.00	13.43	10.35
loans	223.35	163.72	46.20	—	—	13.43	—
grants	66.26	5.94	—	29.97	20.00	—	10.35
<i>Drawals</i>							
loans	114.69	99.34	15.00	—	—	0.35	—
grants	8.66	—	—	8.66	—	—	—
<b>Total Drawal</b>	<b>123.35</b>	<b>99.34</b>	<b>15.00</b>	<b>8.66</b>	<b>—</b>	<b>0.35</b>	<b>—</b>

Table 2.2 : Progress of allocation and drawals of loans through Government of India ( Contd. )

( Rupees in crores )

	Total	Irrigation and Power	Financial Corporations	Public Health, Social Services	National Highways	Fertilizer Plant	Food Storage
As on 30 November 1962							
<i>Allocation</i>	375.115	202.77	46.20	82.37	20.00	13.43	10.345
loans	256.46	196.83	46.20	—	—	13.43	—
grants	118.655	5.94	—	82.37	20.00	—	10.345
<i>Drawals</i>							
loans	167.50	139.87	25.00	—	—	2.63	—
grants	46.83	1.67	—	38.48	2.19	—	4.49
Total Drawal	214.33	141.54	25.00	38.48	2.19	2.63	4.49
Total drawal as percentage of allocation							
As on 30 November 1960	41.4	60.5	10.8	13.7	—	—	—
As on 31 December 1961	42.6	58.5	32.4	28.9	—	2.6	—
As on 30 November 1962	57.1	69.8	54.1	46.7	10.9	19.6	43.4

Source : External Assistance, 1960, 1961 and 1962, Ministry of Finance, Department of Economic Affairs, Government of India, New Delhi.

Table 2.3 : *Accruals and disbursements of P. L. 480 counterpart fund*

(Rupees in crores)

Year (April-March)	Accruals value of commodities received		Disbursement during the year					Balance unutilized (Cumulative)	
			Government of India		U. S. uses	Cooley grants	Third Country Assistance		Total
	During the year	Cumulative	Loan	Grant					
1956—57	39.9	39.9	—	—	6.0	—	—	6.0	33.9
1957—58	101.2	141.1	—	—	—	—	—	—	135.1
1958—59	91.9	233.0	5.0	—	7.4	—	1.0	13.4	213.6
1959—60	97.2	330.2	23.1	0.3	17.0	—	1.1	41.5	269.3
1960—61	185.1	515.3	49.8	3.4	12.9	3.0†	8.4	77.5	376.9
1961—62	86.3	601.6	54.6	13.4	5.9	8.43†	—	82.3	380.9
Total	601.6	601.6	132.5	17.13	49.2	11.43	10.5	220.7	380.9
1962—63	85.0**	686.6**	35.0*	29.7*	N. A.	4.6*	0.6*	N. A.	N. A.
Total	686.6**	686.6**	167.5*	46.83*	N. A.	16.03*	11.1*	N. A.	N. A.

† Presumed to represent transfers to Cooley Fund account.

\* Upto November 30, 1962.

\*\* Upto December 1962.

N. A.—Not available.

- Source : (1) Table V, p. 29, *Reserve Bank of India Bulletin*, January 1963.  
 (2) *External Assistance* 1962.  
 (3) *Indo—U. S. Technical co-operation*, Government of India.

Table 2.4 : *Investment in Second and Third Plans*

	( Rs. crores )		
	<i>Private</i>	<i>Public</i>	<i>Total</i>
Second Plan ( 1956-61 )	3,100*	3,650	6,750
Third Plan ( 1961-66 )	4,100*	6,300	10,400

\* Excludes transfers from public to private sector.

Source : *Third Five Year Plan*, Government of India, Planning Commission, New Delhi, 1961, p. 59.

Out of a total of Rs. 1,156 crores to accrue by the end of the Third Plan period under P. L. 480 ( assuming all the goods mentioned in the agreements upto end of 1962 are imported by then ), if one excludes the projected uses of the rupee funds by the U. S. Embassy, about Rs. 1,008 crores would be available to India for investment in the economy during the two five year plans, of which only 79 crores are to be made available to private enterprise and the rest to the Government of India. This will amount to nearly 5.9 per cent of the total ( actual and projected ) investment in India in the public and private sectors during these two plans.

Out of Rs. 1,008 crores, nearly 46 per cent ( Rs. 462 crores ) had been used during the period of the Second Plan, and the remainder (Rs. 546 crores ) was to be used during the Third Plan period.<sup>2</sup> However, not all imports were to be used directly for consumption; the agreement of May 1960 stipulated that wheat and rice worth about Rs. 170 crores were to be kept in reserve. The imports under P. L. 480 provide real resources only when they are sold in India.<sup>3</sup> Therefore, the Planning Commission excluded this amount from the resource picture of the Third Plan. The net resources available for the Third Plan would be of

<sup>2</sup> This is derived in the following manner. Out of the gross accruals of Rs. 515 crores by end of March 1961, Rs. 53 crores had been disbursed for U. S. Embassy use, including third country assistance. The rest were used for investment in the public and private sectors, through specific disbursements, or by providing general financial resources to the Government of India. Assuming that the residual of the stipulated total sum for U. S. Embassy uses ( Rs. 148 crores, refer Table 2.1 ) would be disbursed during the Third Plan period, the resources available for public and private sector investment would come to Rs. 546 crores.

<sup>3</sup> It is also necessary to note here that if the imported commodities are sold at subsidized rates, then the extra resources available for investment are less to the extent of the subsidy. In India, the only P. L. 480 commodities sold at subsidized prices were foodgrains. Till the end of March 1962 the Government of India had spent Rs. 52.57 crores in subsidizing sale of P. L. 480 foodgrains. This is to be compared to the total value of P. L. 480 imports till that date, net of disbursements for U. S. Embassy uses ( Rs. 59.7 crores ), i. e. about Rs. 542 crores, which had been used by the Government ( and private enterprise). The net additional resources available for investment were therefore around Rs. 489 crores, about 10 per cent less than would appear to be the case. In the rest of this section, this subsidy has not been taken into account, but it is necessary to keep this in mind.

the order of Rs. 376 crores. However, if the stipulated reserves are not maintained, but imported and consumed, then the resources will be worth as much more.

Thus, the P. L. 480 funds financed nearly 6.8 per cent of the total investment in the public and private sectors in India during the Second Five Year Plan period. During the Third Plan period, their share would come to 3.6 per cent of the total investment, excluding the reserves, ( or 5.25 per cent, if the quantum meant for reserves is, after all, consumed during the plan period ).

Almost the whole of the P. L. 480 funds for investment during the Second Plan went to the public sector. ( Only Rs. 3 crores out of Rs. 462 crores were disbursed as Cooley funds ). During the Third Plan the aid to private investment is estimated to be of the order of Rs. 76 crores.<sup>4</sup>

The resources available to the public sector, net of reserves, during the Third Plan would be around Rs. 300 crores.

Table 2.5 presents the financial resources of the public sector under the Second and Third Plans.

The table gives estimate of resources for expenditure not merely on what is in the nature of investments, but also for outlays on social services and other developmental but recurring items. These latter were about a thousand crores rupees in the Second Plan, and were estimated at Rs. 1,200 crores for the Third Plan.

From this table it appears that P. L. 480 funds provided 10 per cent of the total resources of the public sector during the Second Plan. They also formed the large bulk of the total external assistance received by the public sector, around 40 per cent, though it was in the form of very specific commodities.

Under the Third Plan the P. L. 480 resources appear smaller. Net of reserves, they form only 4 per cent of the total resource requirements of the public sector ( gross of reserves, about 6.5 per cent ). Of the estimated external assistance they would form anywhere between 17 to 27 per cent, depending on whether reserves are kept or not.

This comparative position of the P. L. 480 resources gives in brief the role of P. L. 480 funds in India's economic development. A detailed sectorwise breakdown of this investment is rendered largely impossible, because a very large part of the funds, particularly by the end of the Second Plan, had remained unallocated or undisbursed to specific projects.

Moreover, P. L. 480 resources and their investment were only a part of the larger plan of development which India had set before herself. The inclusion of the specific projects, to which P. L. 480 funds were earmarked, were not

<sup>4</sup> Private investment would also benefit through the funds from P. L. 480 earmarked for being provided to various financial corporations, for relending to private firms. By end of November 1962 the allocations for this purpose amounted to Rs. 46 crores, thereby making the total scheduled resources to be available to private enterprise equal to Rs. 125 crores. This may increase if subsequent allocations are also made for similar purposes. During the Second Plan, however, this sum was rather small; only Rs. 5 crores had been disbursed to such financing agencies by November 1960.

Table 2.5 : *Financial Resources of Second and Third Plans*

	<i>Second Plan</i>	<i>Third Plan</i>
	(Rs. Crores)	
1. Balance from current revenues (excluding additional taxation) ..	-50	550
2. Contribution of Railways ..	150 (a)	100
3. Surpluses of other public enterprises ..	(b)	450
4. Loans from the public (net) ..	780 (c)	800
5. Small Savings (net) ..	400	600
6. Provident Fund (net) ..	170	265
7. Steel equalization fund (net) ..	38	105
8. Balance of miscellaneous capital receipts over non plan disbursements. ..	22	170
9. Total of 1 to 8 ..	1,510	3,040
10. Additional taxation measures ..	1,052	1,710
11. Budgetary receipts corresponding to external assistance ..	1,090 (d)	2,200
12. Deficit financing ..	948	550
Total ..	4,600	7,500

(a) Inclusive of increased fares and freight;

(b) Included in items 1 and 8

(c) Includes investment by State Bank of P. L. 480 funds.

(d) Inclusive of investment by Reserve Bank of P. L. 480 funds in special securities in 1960-61.

Source : *Third Five Year Plan*, p. 95.

necessarily dependent on such aid. Their inclusion or exclusion would depend upon the patterns and priorities in the plan, which would, in turn, depend among other things on aggregate available resources. The contribution of P. L. 480 resources can, therefore, be best judged only in the context of the total plans and their results.

In Table 2.6 are presented some of the indicators of change in the Indian economy during the Second Five Year Plan period and the targets for the Third Plan.

It would generally be proper to assume that increases in National Income, employment, etc., would have been less in the absence of aid under P. L. 480. By how much, it would be difficult to say. The original estimate of public investment for the Second Five Year Plan was Rs. 4,800 crores, without taking into account the large assistance under P. L. 480 that subsequently became available. In actual fact, including P. L. 480 resources, only Rs. 4,600 crores were spent in the public sector during the Second Plan. Therefore, while it is quite possible that investment would have been less in the absence of P. L. 480, the Government would possibly have taken stronger measures for raising additional internal resources. It is quite likely that it would have tried to manage with much less imports of foodgrains, etc., than came under P. L. 480. While all this may be true, the fact of the aid under P. L. 480 contributing as much

Table 2.6 : *Selected Indicators*

<i>Item</i>	1955-56	1960-61 <i>(estimated)</i>	1965-66 <i>(projected)</i>
1. National Income (at 1960-61 prices) Rs. crores ..	12,130	14,500	19,000
2. Per capita income (1960-61 prices) ..	306	330	385
3. Money supply ( Rs. crores ) ..	2,184	2,908	—
4. Deficit financing (a) (Rs. crores) ..	333	948	550
5. Index of industrial production ( 1950-51 = 100 ) ..	138.6	194.3	329.0
6. Index of foodgrains production ( 1949-50 = 100 ) ..	115.3	132.0	171.0
7. Index of employment (organised sectors) ( 1950-51 = 100 ) ..	104.0	121.0	
8. Additional employment during the Plans ..	—	8 million	14 million

(a) Amounts are for the First and Second and Third Plan periods ending 1955-56, 1960-61 and 1965-66 respectively.

Source : *Third Five Year Plan*.

to the invested resources remains undoubted. What is more, by providing foodgrains in large quantities it helped mitigate the inflationary pressures in this vital sector of the economy.<sup>5</sup>

We shall now present the details about the allocations of the P. L. 480 counterpart funds for specific projects in the public sector. Break up of the loans and grants to the Government of India according to projects was available for the period upto 30 November 1962 ( see Table 2.7 ). Loans were granted generally for projects which would be productive and yield returns directly, whereas grants were sanctioned for schemes generally contributing to social overheads. As on 30 November 1962, 54 per cent of the allocations went to irrigation and power, 22 per cent for public health and social services, etc., 12 per cent for financial corporations for relending to industrial concerns in the private sector, and the rest for national highways, fertilizer plants and warehouses ( see Table 2.2 ). It is rather remarkable that no allocations were made for fertilizer plants and food storage upto 1960; even after funds were earmarked

<sup>5</sup> To the extent the prices of commodities entering into imports under P. L. 480 were kept low relative to that of others, the domestic producers of such commodity may be said to have borne a tax to finance development.

Table 2.7 : Statement showing Projects financed from P. L. 480 Loans and Grants ( as of November 30, 1962 )

( Rupees Crores )

No.	Name of the Project	Amount allocated			Amount drawn	
		Total	Loan	Grant	Loan	Grant
1.	Refinance Corporation of India	26.20	26.20	—	8.00	—
2.	Chambal Project — Stage I	27.18	124.16	5.94	117.98	1.67
3.	Hirakud Project — Stage I	4.64				
4.	Damodar Valley Project	7.45				
5.	Mahi Right Bank Canal	2.04				
6.	Kakrapar	3.02				
7.	Nagarjunsagar	29.47				
8.	Kosi	17.01				
9.	Bhadra Reservoir	7.87				
10.	Tungabhadra	7.10				
11.	Mahanadi Delta Irrigation	5.20				
12.	Kundah Hydel	7.63				
13.	Koyna Hydel	11.49				
14.	Sharavati Hydel	34.45				
15.	Industrial Finance Corporation	10.00	10.00	—	10.00	—
16.	Industrial Credit and Investment Corporation of India	10.00	10.00	—	7.00	—
17.	Chandrapura Thermal Electric Power Station	20.50	20.50	—	1.15	—
18.	Barauni Thermal Electric Power Station	1.31	1.31	—	0.76	—
19.	Durgapur Thermal Power Project	3.43	3.43	—	—	—
20.	Kanpur Thermal Electric Power Plant	0.95	0.95	—	0.22	—
21.	Barapani Hydro-Electric Power Project	6.40	6.40	—	1.55	—

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Table 2.7 : Statement showing Projects financed from P. L. 480 Loans and Grants ( as of November 30, 1962 ) ( Contd. )

No.	Name of the Project	( Rupees Crores )				
		Amount allocated			Amount drawn	
		Total	Loan	Grant	Loan	Grant
22.	Trombay Fertilizer Plant	13.43	13.43	—	2.63	—
23.	Rihand Valley Development	5.63	5.63	—	2.64	—
24.	Malaria Eradication Programme	31.00	—	31.00	—	22.46
25.	Indian Institute of Technology, Kanpur	0.45	—	0.45	—	0.44
26.	U. P. Agricultural University	1.50	—	1.50	—	0.89
27*	All India Institute of Medical Sciences Hospital, New Delhi	2.90	—	2.90	—	0.23
28.	India Investment Centre	0.22	—	0.22	—	0.09
29.	Dairy Development	3.60	—	3.60	—	—
30.	Soil and Water Conservation	2.00	—	2.00	—	0.75
31.	Exploration of Ground water resources	0.80	—	0.80	—	0.45
32.	National Highways	20.00	—	20.00	—	2.19
33.	Craftsman Training	1.00	—	1.00	—	1.00
34.	Higher Technical Education	2.00	—	2.00	—	—
35.	Foodgrains Storage	10.345	—	10.345	—	4.49
36.	Elementary Education	30.00	—	30.00	—	12.17
37.	Medical Education Training	2.90	—	2.90	—	—
38.	Public Health Centres	3.00	—	3.00	—	—
39.	Small-pox Eradication	1.00	—	1.00	—	—
Total		375.115	256.46	118.655	167.50	46.83

Source : External Assistance, 1962, Department of Economic Affairs, Government of India.

for these during 1961, the progress as witnessed in the percentage of drawal to allocation, was not satisfactory upto 1962. Relatively rapid utilization of earmarked funds was seen only in the case of irrigation and power projects.

It may also be useful to see how the sums disbursed to the public sector compared with the allocations under the Plans for different purposes. Here, unfortunately data were not available for comparable periods. Table 2-8 summarizes the available information for the two plan periods. Because of the non-comparability of the periods for which expenditure data are available, it may be convenient to assume that the amounts disbursed from counterpart funds upto the end of 31 December 1961 correspond with the Second Plan period (upto 31 March 1961), and disbursements in the subsequent period upto 30 November 1962 with the first year 1961-62 of the Third Plan. On the basis of this assumption, it is seen that the expenditure from the counterpart funds contributed about 11.4 per cent of the outlay on irrigation and power in the Second Plan; it rose to 17.6 per cent in 1961-62. While the contribution of counterpart fund to expenditure on social services in the Second Plan was insignificant, it became 16 per cent in 1961-62. The amount spent out of the counterpart funds for storage and on roads was negligible in the Second Plan but was stepped up in the Third Plan. It is thus evident that the counterpart funds disbursed during the entire period contributed significantly only for irrigation and power projects.

#### *Impact of counterpart funds on money supply*

The accumulation of counterpart funds in rupees has given rise to a controversy as regards the nature of its impact on money supply and, consequently, on the general price level.<sup>6</sup> It is necessary, therefore, to begin with, in brief, the procedure followed by the Government of India in payment of the value of the commodities received under P. L. 480 since 1956, and the manner in which these funds are maintained and subsequently given as loan or grant to India for development expenditure in the course of the Second and Third Plans.

On receipt of intimation that the commodities are shipped, the Government of India pays into the U. S. Government Title account in India an amount in rupees equivalent to the dollar cost of these commodities plus 50 per cent of the ocean freight, in respect of cargo shipped in U. S. flag vessels. There has been significant change in the actual manner of this payment from May 1960. Upto May 1960, the Government paid the value of the commodities through the Reserve Bank of India into the account held by the U. S. Embassy with the State Bank of India. The U. S. Embassy maintained these funds as time deposits with the State Bank of India, until their final disbursal. The

<sup>6</sup> The debate on this problem is continuing. For details see, Khatkhate, D. R. and Bhat, V. V., "Effects of the United States commodity assistance to India on Money Supply", *Reserve Bank of India Bulletin*, January 1963, and the subsequent debate between B. R. Shenoy and Khatkhate and Bhat in the columns of the *Economic Times*, of March 27, 28, 29, 1963, May 9, 1963 and later.

Table 2.8 : Expenditure on certain heads during the Five Year Plans, and place of P. L. 480 funds in it

( Rupees in crores )

	Estimated Expenditure under			Amounts drawn out of PL 480 counterpart funds upto		
	Second Plan (Upto 31-3-61)	Third Plan	During 1961-62	30 November 1960	31 December 1961	30 November 1962
1 Irrigation and Power	865.66	1,549.23	238.64	55.76	99.34	141.54
2 Road and Road Transport	241.82	270.09	71.57	—	—	2.19
3 Social Services	730.24	943.36	186.49	1.73	8.66	38.48
4 Co-operation including warehousing, marketing and storage	38.81	79.63	14.78	—	—	4.49 ( storage )
5 Financial Corporations	N. A.	N. A.	N. A.	5.00	15.00	25.00
Total of 1 to 5	1,876.53	2,842.31	511.48	62.49	123.35*	214.33+

\* Includes Rs. 0.35 crores on fertilizer plants.

+ Includes Rs. 2.63 crores on fertilizer plants.

N. A.—Not available.

Sources : (a) *Third Five Year Plan*, Appendix B,  
 (b) *Third Five Year Plan, Progress Report*, 1961-62, pp. 40-41,  
 (c) Table 2.2 ante.

State Bank in turn used to invest them largely<sup>7</sup> in Government of India securities.

Since May 1960, the counterpart funds are deposited directly with the Reserve Bank of India who invest them in special non-negotiable securities of the Government of India, on which interest at 1.5 per cent is paid. At the same time, the State Bank of India was required to transfer the accumulated P. L. 480 counterpart fund deposits in agreed instalments to the Reserve Bank of India. Accordingly, upto end of March 1963 an amount of Rs. 194 crores would have been transferred to the Reserve Bank. The net investment by the Reserve Bank in these securities amounted to Rs. 294.54 crores and Rs. 354.54 crores as on 31st March of 1962 and 1963 respectively.

#### *Effects on State Bank of India*

It may be appropriate here to examine the effects of the P. L. 480 deposit with the State Bank of India in the initial period upto May 1960. Though it is stated that these deposits were invested by the State Bank in Government securities, it seems that not all of the deposits were thus invested.<sup>8</sup>

A somewhat detailed examination of the deposits and investments in government securities ( gross and net of P. L. 480/665 funds ), and the credit advanced<sup>9</sup> revealed that the deposits of P. L. 480 funds with the State Bank of India significantly affected its position. It is assumed that all undisbursed P. L. 480/665 funds that were not with the Reserve Bank of India were deposited with the State Bank and that the latter invested them entirely in Government securities.

From Table 2.9 it is seen that during the years 1957-61 the ratio of the Bank's gross investments in government securities to its gross deposits was much larger than the ratio of net ( net of P. L. 480/665 deposits ) investments and net deposits. Similarly, the ratio of gross credit to gross deposits during the period was much smaller than the ratio of net credit to net deposits. The Bank generally presented these gross figures for public information. If the State Bank were treating the P. L. 480 rupee deposits as special funds and investing them all

<sup>7</sup> From the opening remarks of the Chairman of the State Bank of India in his speech at the Fourth Annual General Meeting held in February 1959, it would appear that the entire amount of counterpart funds was invested by the Bank in Government of India securities as a matter of policy.

<sup>8</sup> " . . . a part of the P.L. 480 funds was utilized by the State Bank of India for investment in Treasury Bills, and also for extension of credit to the private sector in the initial stages of the accrual of these funds to the Bank." "Pattern of Ownership of Government Debt", *Reserve Bank of India Bulletin*, March, 1961.

<sup>9</sup> Information about the State Bank of India was culled from Appendix I of Reports of the Central Board of Directors of the Bank for various years. The data for other scheduled banks were derived by subtracting the State Bank figures from the figures given in Table 2, p. 3 for All Scheduled Banks in the *Trend and Progress of Banking in India during 1962*, Reserve Bank of India, Bombay.

Table 2.9 : *Credit and investment ratios of the State Bank of India*

<i>Last Friday of</i>	<i>Credit as percentage of gross deposits</i>	<i>Credit as percentage of net deposits</i>	<i>Gross investment in Government Securities as percentage of gross deposits</i>	<i>Net investment in Government securities as percentage of net deposits</i>
1956	60.9	62.0	41.8	40.8
1957	47.8	75.5	49.5	20.2
1958	36.6	66.4	59.2	25.9
1959	27.8	57.6	68.3	34.4
1960	40.6	69.2	51.4	17.2
1961	48.7	66.8	42.4	21.2

in government securities, then one can see that the ratio of its net investments to deposits was much smaller, and of net credit to deposits much larger than what would have been expected. Indeed, while the percentage of investments in Government securities to deposits (both net of P.L. 480 funds) stood at 40 per cent in 1956, it came down to around 25 per cent or less in the subsequent years. If 40 per cent was a more appropriate level for the State Bank, it could reduce its net investment in Government securities only because of the availability of P. L. 480 funds. If the State Bank's position in this regard is compared with that of other Scheduled Banks in the country ( Table 2.10 ) this point is further emphasized. It may be fair to assume that the State Bank's investments in Government securities would be generally higher than that of other scheduled banks, and this was the case in 1956. Since then it has been more often lower. It is, therefore, clear that P. L. 480 deposits enabled the State Bank of India to divert more funds from Government securities to make larger advances,<sup>10</sup> than it would otherwise have been possible for it to do. To the extent the State Bank used the P. L. 480 rupee deposits to increase its credit ratio, it increased the money supply with the public.

<sup>10</sup> The net credit to deposit ratio of the State Bank was even higher than shown in the above tables, if one considers the busy seasons of the year.

Table 2.10 : *Credit investment ratios of the State Bank and other Scheduled Banks**(All figures net of P. L. 480/665 deposits)*

State Bank of India			Other Scheduled Banks			
<i>As on last Friday of</i>	<i>Credit as per cent of deposits</i>	<i>Cash as per cent of deposits</i>	<i>Investments in Government securities as per cent of deposits</i>	<i>Credit as per cent of deposits</i>	<i>Cash as per cent of deposits</i>	<i>Investments in Government securities as per cent of deposits</i>
1956	62.0	6.9	40.8	73.4	9.1	32.7
1957	75.5	11.8	20.2	68.7	8.6	27.5
1958	66.4	14.3	25.9	62.5	7.9	34.7
1959	57.6	9.2	34.4	63.6	7.4	33.4
1960	69.2	14.2	17.2	72.3	9.2	27.5
1961	66.8	11.0	21.2	77.7	8.7	27.2
1962	67.3	6.0	35.4	75.3	7.1	25.9

Except in the particular sense discussed above, the transactions involving the State Bank were basically not different from those involving the Reserve Bank. We shall, therefore, treat the effects of the arrangements in the post-May 1960 period, in what follows.

#### *Transactions involved*

For the purpose of illustration, let us assume that the value of commodities imported under P. L. 480 plus the 50 per cent cost of ocean transport was Rs. 100 crores. This amount was paid to the U. S. Embassy from the current balances of the Government of India. The Embassy deposited these funds with the Reserve Bank, who invested them in special non-negotiable securities of the Government.<sup>11</sup> Thus, by the end of this stage there would be no change in money supply. Government of India paid the U. S. Embassy but received the money back through investments by the Reserve Bank against special securities. Government's cash balances remained unaltered but its liabilities to the Embassy increased by 100 crores against its increased assets in terms of imported commodities.

In the next stage Government would sell the commodities and receive money from public; to the extent of the sale proceeds there would be contraction in money supply with the public. But then payments would have to be made to the U. S. Embassy for its disbursement to Government of India as loans and grants and for its own (Embassy's) uses. If it is assumed that the amount

<sup>11</sup> Suppose the Government of India did not have cash balances to make the initial payment to the U. S. Embassy, it would create treasury bills (*ad hoc*s) and sell them to the Reserve Bank to get the money for payment. But then the U. S. Embassy deposited the receipts with the Reserve Bank (earlier with the State Bank) who invested them in Government of India securities. Against receipts of the sums Government would cancel the *ad hoc*s. Thus the total effect would be nil.

needed for such disbursements by the U. S. Embassy equals the amount of sale proceeds and that the money is correspondingly spent, there would be expansion in money supply with public.<sup>12</sup> Against the return of money to U. S. Embassy for disbursements the special securities would be cancelled. Sale proceeds would represent contraction in money supply while disbursements by U. S. Embassy and consequent expenditure would be expansionary.

In fact, however, the position has been somewhat different from the description in the foregoing. The differences arise only after the second stage. What actually happens is that the sale proceeds are credited by the Government to its capital budget. The disbursements by U. S. Embassy in a particular accounting period are smaller than the sale proceeds, and the difference in a year is absorbed in the capital transactions, i. e. ways and means position of Central Government budget of that particular year. Before going on to find the actual result of these deviations let us look at the manner in which these transactions find their place in the Government of India budgets.

#### *Budgetary Procedure*

To understand the manner in which Government of India record the transactions relating to P. L. 480 in their budgets it is necessary to follow the sequence of the transactions.

(1) The first transaction is payment to U. S. Embassy of the cost of import together with 50 per cent of the ocean transportation cost. It is stated that "the surplus agricultural commodities are treated as sold to Government of India and payment in rupees is made in India to the U. S. A. by debit to the head '85-A-Capital Outlay on Schemes of Government Trading.'"<sup>13</sup> Thus, the first payment of counterpart rupee fund is debited on the disbursements side in the capital budget.

(2) The U. S. Embassy deposited this sum with the Reserve Bank of India who invested it in the special non-negotiable securities of Government of India. Thus Government of India received back the sum of money paid out in (1). The receipt is entered as "Investment of U. S. Government Counterpart deposit funds' on receipts side."<sup>14</sup>

<sup>12</sup> The U. S. Embassy will spend money for its own expenditures, the Cooley grants will be spent by recipient private sector industries, and loans and grants to Government of India would be spent on the approved projects.

<sup>13</sup> *Explanatory Memorandum, General Budget, 1961-62, Government of India, p. 84.*

<sup>14</sup> We come across this entry only from the budget for 1961-62, and not in the earlier budgets. Evidently this happened because after May 1960, the Reserve Bank of India started receiving the funds from the U. S. Embassy for direct investment in special securities. (It did not occur in the budget for 1960-61 but finds a place in the revised 1960-61 and in 1961-62 budget.) Upto May 1960 the counterpart fund was being deposited with the State Bank who invested it in Government of India securities. Presumably credit for investments by the State Bank of the counterpart fund was taken in the normal manner under such items as 'new loans' or 'other deposits and advances (net)'. From explanation to the latter item in earlier budgets it would seem that credit for P. L. 480 counterpart fund investments was taken here.

Thus the payment to the U. S. Embassy appeared on debit side and receipt of the counterpart fund by way of its investment in Government securities was recorded on credit side. Broadly speaking both these transactions may be said to cancel each other.

(3) Then arise the sale proceeds of the P. L. 480 imports. These are credited to head '85-A Schemes of Government Trading'. It is this entry which essentially gave real credit to Government of India as there would be actual receipts of money recovered from the public.

(4) The next transaction pertains to the disbursement of loans and grants out of the U. S. Embassy account. Whenever such disbursements are made, the sums in question are credited to the "Special Development Fund",<sup>15</sup> which transaction features under the head "Transfer of Development Assistance from the Government of U. S. A." on the disbursements side of the Capital budgets. From the "Special development fund" money would appear to be actually spent on the agreed projects.

On the basis of the foregoing transactions it can be seen that the debit item of payment to U. S. Embassy out of '85-A Schemes of Government Trading' and the credit item of investment of U. S. Government counterpart funds would crudely speaking, balance each other. Then Government receives sale proceeds which are credited to the head '85-A Schemes of Government Trading' appearing on debit side. Later appears the debit item of Transfer of U.S.

(Footnote Contd. 14)

(Rupees in crores)

<i>Financial year</i>	<i>Opening balance</i>	<i>Credit</i>	<i>Debit</i>	<i>Closing balance</i>
1958-59	—	5.00	5.00	—
1959-60	—	23.05	—	23.05
1960-61*	23.05	53.52	3.46	72.11
1961-62*	73.06	65.68	15.45	123.29
1962-63				
(revised)	123.29	134.00	15.77	241.52
1963-64				
(budget)	241.52	105.00	7.70	338.82

\* Provisional. *Source* : Annexures to Central Budgets, 1958—59 to 1963—64.

<sup>15</sup> The Special Development Fund was started in October 1951 from the sale proceeds of American Loan Wheat and wheat obtained from Commonwealth countries under the Colombo Plan. Later on other assistance under the Colombo Plan, Indo-U. S. Technical Co-operation, and under P. L. 480, etc. was brought into this Fund. The account for the fund from assistance under P. L. 480 which forms part of the Special Development Fund is shown below. The following credit and debit entries feature under III-Public Account in the "Statement of Receipts and Disbursements of the Central Government."

Government assistance to agreed projects. Inasmuch as, actual sale proceeds have been larger than disbursements (= Loans and grants to Government of India + U. S. Embassy uses + Cooley Amendment Loans + Third Country Assistance), Government have acquired funds from the public for their ways and means position.<sup>16</sup>

It is thus quite clear that all transactions on account of P. L. 480 counterpart funds are accounted for in the Budget, and to the extent of the availability of these, the net expansion of Treasury bills is affected.<sup>17</sup> If the counterpart funds are available in a particular year in more than anticipated sums, *pari pasu* the need for net expansion of Treasury bills would be smaller; and *vice versa*. The total P. L. 480 funds are used by Government in the normal manner as a part of its general resources, except in the case of (1) approved projects when they are shown as specifically earmarked funds and (2) the amounts used by the U. S. Embassy which are outside the Government of India budget.

#### *Impact on Money Supply*

In view of the fact that the sale proceeds form part of the capital budget of the particular year, the position would be as follows. In the first year 1956-57, for example, disbursements by U. S. Embassy amounted to Rs. 6 crores and so the balance of Rs. 19.29 crores (taking gross sale proceeds at

<sup>16</sup> The same transactions can also be viewed slightly differently. At the end of each accounting year there is a credit and debit entry under 85-A Schemes of State Trading. The amount recovered as sale proceeds of P. L. 480 imports was paid to U. S. Embassy account. The U. S. Embassy had invested this, through the Reserve Bank, in special government securities. The money came back in this form to the Government of India. During the accounting period, as and when need for specific disbursements arose, these special securities were retired and funds were disbursed to the parties concerned. The loans and grants to the Government of India were credited to the Special Development Fund, and disbursements to the U. S. Embassy and Cooley fund account featured in their accounts. Thus part of the total rupee funds were credited to Government of India as grants and loans (and spent under those heads) part of it was spent by the U. S. Embassy (including Cooley fund account). The remaining was used by the Government of India as special loans raised through special securities.

<sup>17</sup> In the explanation to the net expansion of Treasury bills to the tune of Rs. 240 crores under revised estimates of 1962-63 against the budgeted figure of Rs. 89 crores it is stated that "the worsening of Rs. 151 crores is the net result of a number of factors" enumerated among which are increased expenditure on defence, larger payments to States as their share of Union Excise Duties, smaller receipts of P. L. 480 deposits and foreign loans, etc. (p. 71, Explanatory Memorandum, General Budget 1963-64). Here a relevant question is how then does the ways and means position in the budget for 1963-64 (pp. 232-33) show receipts of only Rs. 240.41 crores and Rs. 54.13 crores in 1960-61 and 1961-62 respectively against investment of counterpart funds? It may be remembered here that Rs. 240 crores for 1960-61 is inclusive of Rs. 108 crores transferred from the State Bank in 1960-61; for the previous years the investment of counterpart funds by State Bank in Government securities would presumably have featured under items such as rupee loans raised or other debt heads.

Rs. 25.29 crores,<sup>18</sup> ignoring the sale proceeds of non-foodgrains, as these data were not available to us ) would have been used in the capital budget for plan or non-plan development expenditure. Thus if the sale proceeds of Rs. 25.29 crores are taken to have contractionary effect ( having been withdrawn from money supply with the public ), in the same year an equal amount would be spent by Government through its capital transactions. In 1957-58, Rs. 105.13 crores was the amount of sale proceeds and as there was no disbursement during the year from the U. S. Embassy the entire amount would be used by Government as general resources for that year's development expenditure. Thus at the end of each succeeding year ( accounting/financial ) the net effect would be nil, the contractionary and expansionary effects having been neutralized.

The total effect on money supply, to the extent of food-grain imports<sup>19</sup> upto the end of March, 1962 is indicated in Table 2.11. The effect of items ( i ) and ( ii ) together would be contractionary as seen in ( iii ) which in turn would be counterbalanced by the U. S. Embassy's expenditure *plus* the allocations for approved purposes for loans and grants to Government of India *plus* the residual sum representing the almost simultaneous expenditure of accrued funds on development plans during these years :

Table 2.11 : *Effects on Money Supply upto 31st March 1962.*

<i>Item</i>	<i>Effect</i>	<i>Amount in Rs. crores</i>
( i ) Sale proceeds of foodgrains	Contraction	—605.66
( ii ) Incidental expenses in India incurred by Government	Expansion	+ 91.06
( iii ) Effect of P. L. 480 commodity imports and sale ( i ) and ( ii ) accrual on credit side in capital budget ( i ) — ( ii )	Contraction	—514.60
( iv ) U. S. Embassy uses	Expansion	+ 71.13
( v ) Use of residual amount * for development expenditure, etc. in the budgets of each of the years : ( iii ) — ( iv )	Expansion	+ 443.47
( vi ) Net effect of ( iii ), ( iv ) and ( v )	Nil	..

\*It is assumed that the entire 50 per cent of tonnage for which India had to bear the ocean transportation cost was carried in Indian ships. If this was carried, on the other hand, in foreign ships the amount of Rs.39.71 crores representing the 50 per cent cost for ocean transport of foodgrains would figure as contraction in money supply.

<sup>18</sup> The annual figures of sale proceeds in respect of P. L. 480 foodgrains were computed by us on the basis of data supplied by the Ministry of Food and Agriculture. For illustration, we have quoted figures for only two years in the text. The total sale proceeds for the 6 years ending March 1962 is given in Table 2.11.

<sup>19</sup> We do not have data separately for the non-foodgrain sales, but if they were available they would feature both on the contraction and expansion side, leaving the net position unchanged.

Suppose now, that the imports under all P.L. 480 agreements (upto November 1962 ) were completed and consequent sale proceeds stopped at the end of March 1964, but the balance with the U. S. Embassy of counterpart funds remaining to be disbursed was say, Rs. 500 crores. ( This balance would be the difference between total value of commodities imported plus 50 per cent of ocean freight at Rs. 1,156 crores and the total amounts disbursed till 31st March 1964 at, say, Rs. 656 crores). Further, supposing that the U. S. Embassy demands Rs. 100 crores for disbursement in 1964-65, the Government would have to find Rs. 100 crores, as there would be no sale proceeds. Assuming that Rs. 70 crores of this would be for loans and grants to the Government of India, the Government would only show that year's capital development expenditure as coming from U. S. Embassy and so it would be only a book-entry of paying U. S. Embassy on the one hand and receiving on the other, the same amount. In result, there would be no expansion or contraction in money supply because of this portion of U. S. Embassy's disbursements. The balance of Rs. 30 crores, however, will have to be paid to the U. S. Embassy for disbursements for its own uses or for Cooley loans. This amount would have to be found by Government by means of the following methods : ( i ) by curtailing its proposed expenditure under budget for 1964-65, or ( ii ) from its cash balances, or ( if none of these alternatives is possible ) ( iii ) by selling treasury bills to the Reserve Bank.

In both situations ( ii ) and ( iii ) there would be expansion in money supply with public.

It is important to note here that the expansionary effect emerging from situations ( ii ) and ( iii ) is not a direct and essential resultant of the P. L. 480 imports and the manner in which counterpart funds are created. It arises because of the timelag between the accrual of funds and the agreed disbursements by the U. S. Embassy for stipulated purposes. Had the accrual and disbursement occurred in the same accounting period there would have been a neutral effect as seen earlier, on money supply. It is the timelag which enabled the Government of India to use the undisbursed funds in a particular accounting period for its overall ways and means position. The expansionary effect might arise only to the extent of funds meant for U. S. uses but utilized by the Government of India because of the timelag. Thus there is nothing built in in the manner of P. L. 480 fund transactions that will create a net expansionary or contractionary effect. The Government takes all these funds into account in budgeting, and therefore the decision to increase net issue of treasury bills will be a part of the total budgetary policy, rather than an inevitable impact of P. L. 480 funds.

An attempt is made in the following to present a possible picture of the use of counterpart funds till the end of March 1962.

<i>As on 31st March 1962</i>	<i>Amount ( Rs. crores )</i>
1. Value of Commodities accrued	601.60
2. Of which invested in Government Securities by Reserve Bank, inclusive of Rs. 144.0 crores transferred from State Bank.	294.54
3. Disbursements by the U. S. Embassy for its own uses, Cooley grants and for third-country assistance	71.13
4. Money transferred as development assistance to the Special Development Fund ( total credits to the Fund as on 31st March 1962 )	147.25
5. Balance with the State Bank of India*	125.64
6. Total ( 2+3+4+5 )	638.56
7. Difference between 1 and 6	- 36.96

\* These have been largely invested in Government Securities, but would feature under loans from public under budget statements.

*Sources :*

1. As given in the *Reserve Bank of India Bulletin*, January 1963 in Table V, p. 29.
2. Budgets of Government of India, 1961-62, 1962-63, 1963-64
3. As in 1 above.
4. See footnote 14 ante.
5. P. L. 480/665 deposits derived by juxtaposing the data about aggregate deposits and excluding P. L. 480/665 deposits with all scheduled banks given in the *Reserve Bank of India Bulletin*, April 1963, in Statistical Tables 3 and 51. Assuming further that all these were with the State Bank of India, we get a figure of Rs. 134.74 crores of P. L. 480/665 deposits as at the end of March 1962. P. L. 665 deposits are derived to be Rs. 9.1 crores from Table VI in the *Reserve Bank of India Bulletin*, in 1 above. Thus we get this figure of Rs. 125.64 crores as possible balance at the close of March, 1962 on P. L. 480 account with the State Bank.

The excess of Rs. 36.96 crores is obviously because of some double counting. It is possible that a part of the amount shown as disbursed for Embassy uses and Cooley fund aids, was still being held in the State Bank ( or other commercial banks ) as P. L. 480 funds, and not under the altered heads. If this is so, then the net undisbursed P. L. 480 funds with the commercial banks ( including the State Bank ) would come to around Rs. 88 crores.

A final point about the inflationary-deflationary impact of P.L. 480. While the effect on money supply may be said to have been neutral, the fact that large quantities of foodgrains have been made available, has obviously cushioned

the impact of the net deficit financing by the Government, on this sector of the economy. In the absence of such large food imports, the impact of deficit financing during the Second Plan would have been much greater on the Indian food economy. As shall be seen from the data in Chapter VI, the P. L. 480 imports could not, however, check the inflationary pressures on non-foodgrain prices. In the process, this resulted in significant changes in the structure of relative prices.

### *Effects on Trade*

The U. S. programme of disposal of surplus agricultural commodities provided certain guide-lines according to which the Government of the recipient country was required to take reasonable precautions to safeguard usual marketings of the U. S. A. and to ensure that the programme would not disrupt international prices and normal patterns of trade. The original Act appears to have been intended to maintain the commercial marketings of the United States.<sup>20</sup> Countries like Canada and Australia were particularly concerned with the large volume of surplus disposals and several official and non-official committees in the U. S. A., Europe and F. A. O. drew pointed attention of the U. S. authorities to this problem. The first meeting of the Wheat Utilization Committee appointed by the "Food for Peace" Conference held in Washington in May 1959 recommended that, "In principle, agreements should include an undertaking by the recipient country to purchase on a global basis, a minimum commercial quantity reasonably consistent with imports over a representative period, having regard to other relevant factors."<sup>21</sup> The Committee called for consultations with other exporting countries by the country supplying wheat under concessional terms. On her part, India was keen to absorb additional supplies of wheat. Her case for additional foodgrains was based on a "tendency for increased consumption owing to greater urbanization and higher incomes..." resulting from the heavy expenditure under the Five Year Plans and deficit financing and the monetary effects of the plan expenditure. It was claimed that her imports under P. L. 480 "would not displace usual marketings or unduly disrupt world price of agricultural commodities."<sup>22</sup>

<sup>20</sup> The "tied-sales" provision of the P.L.480 programme required countries buying surpluses for local currencies to buy for dollars a specified volume of the surplus commodity from the U. S. "This requirement was intended to protect normal U. S. marketings; however, it quite obviously did not protect the markets of other exporters." (Hamilton, W. E. and Drummond W. M., *Wheat surpluses and their impact on Canada-United States relations*, Canadian-American Committee, 1959, p. 26).

<sup>21</sup> As quoted in *Review of the World Wheat Situation*, April 1960, London, International Wheat Council, p. 37.

<sup>22</sup> Ramakrishnan, C. A., I. C. S., Director-General of Food and Joint Secretary, Food Department, India : "The Use of Surplus Wheat for Economic Development in India" — a paper in the *International Wheat Surplus Utilization Conference, Proceedings*, Department of Economics, South Dakota State College, Brookings, S. D., p. 144.

The normal marketing obligations stipulated in these agreements are summarized in Table 2.12. In the specified period India was required to import the given commodity in stated quantities through commercial channels and this quantity was to be over and above the imports under P. L. 480 agreements. There were other conditions also to be fulfilled. For instance, during each U. S. Financial Year 1957, 1958, and 1959, India was to buy commercially at least 1.5 lakh metric tonnes of wheat and 1.0 lakh bales of cotton from U. S. A. The quantities of stipulated commercial imports for 1961-64 were, however, subject to review, and were in fact adjusted in 1962-63 in the case of wheat imports through commercial channels, to 2.0 lakh metric tonnes. The agreement of March 1961 also laid down that increased availability of imported cotton would not lead to increase in export of cotton textiles over preceding years' level. In November 1962 it was further stipulated that if India's exports rose above the 1959-61 level, she was to increase correspondingly her imports of cotton through commercial channels.

A commodity-wise account of the trend in India's imports of the commodities entering into P. L. 480 transactions is presented in the following paragraphs.

Table 2.12 : *Normal Marketing Obligations under P. L. 480 agreements.\**

<i>U. S. Fiscal year (July-June)</i>	<i>Rice not less than lakh tonnes</i>	<i>Wheat</i>	<i>Cotton not less than lakh bales of 480 lbs.</i>
1957	3.75	5.5	5.0
1958		5.5	5.0
1959		5.5	5.0
1960	4.00	4.0	3.5
1961		4.0	3.5
1962		4.0	
1963		4.0	3.5
1964		4.0	

\*Note : Figures in the Table are as indicated in the original agreements. Details of adjustments to these stipulations, if any, are not known to us.

*Wheat* : Table 2.13 shows that India's wheat imports from different countries underwent considerable fluctuations since 1951. Till 1953 India imported large quantities of wheat. In these years the share of the U. S. came to around 50 per cent ( 34 per cent in 1953 ) of total wheat imports.<sup>23</sup> During these years India purchased around a million tonnes of wheat each year from countries other than U. S. A. mainly Canada and Australia. In the following two years India's wheat imports dwindled to around 3 lakh tonnes and the bulk of it came from Australia. Since the beginning of imports under P. L. 480, parti-

<sup>23</sup> A large part of this was under special loan agreements with the U. S. Government.

Table 2.13 : Imports of Cereals on Government Account into India according to Source

	( in ,000 metric tonnes )											
	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962*
<i>Wheat and wheat flour</i>												
Canada ..	333	533	423	—	—	—	11	766	278	24	158	45
U. S. A. ..	1839	1791	586	—	131	430	2704	1928	3167	4030	2536	2846
Australia ..	240	227	453	200	311	618	164	15	98	322	396	358
Argentina ..	521	—	249	—	—	—	—	—	—	—	—	—
Other Countries ..	131	—	—	—	—	55	—	—	—	—	—	—
Total : ..	3064	2551	1711	200	442	1103	2879	2709	3543	4376	3090	3249
PL 480 ..	—	—	—	—	—	147	2514	1898	3167	4030	2122	2699
PL 480 imports as per cent of total ..						13.3	87.3	70.1	89.4	92.1	68.7	83.1
<i>Rice</i>												
Burma ..	309	382	153	635	269	278	517	390	295	336	160	201
Thailand ..	220	187	2	—	—	—	—	—	—	—	—	—
Pakistan ..	160	14	23	—	—	5	12	—	—	—	—	—
China ..	67	150	—	—	—	47	14	—	—	—	—	—
U. S. A. ..	—	—	—	—	—	—	197	—	—	257	194	189
Other Countries ..	5	—	—	—	—	—	7	7	—	106+	30+	—
Total ..	761	734	178	635	269	330	747	397	295	699	384	390
PL 480 ..							197	—	—	257	194	189
PL 480 imports as per cent of total ..							26.4	—	—	36.8	50.5	48.2

+ From U. A. R.

Table 2.13 : Imports of Cereals on Government Account into India according to Source. (Contd.)

	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962*
<i>Milo ( Sorghum )</i>												
U. S. A. ..	598	549	113	8	—	—	—	86	11	34	19	—
China ..	365	92	—	—	—	—	—	—	—	—	—	—
Australia ..	12	—	33	—	—	—	—	—	—	—	—	—
Total : ..	975	641	146	8	—	—	—	86	11	34	19	—
PL 480 ..						—	—	86	11	34	19	—
PL 480 imports as per cent of total ..								100	100	100	100	
<i>Maize ( Corn )</i>												
U. S. A. ..	—	—	—	—	—	—	—	25	9	18	—	—
Total ..	—	—	—	—	—	—	—	25	9	18	—	—
PL 480 ..						—	—	25	9	18	—	—
PL 480 imports as per cent of total ..								100	100	100		
Total Cereal Import ..	4800	3926	2035	843	711	1433	3626	3217	3858	5127	3493	3639
PL 480 ..						147	2711	2009	3187	4340	2335	2888
PL 480 imports as per cent of total ..						10.2	74.7	62.4	82.6	84.6	66.8	79.3

THE OVERALL IMPACT

N. B. : Total imports are net of losses in transportation and are adjusted according to foot-notes to the tables in B. F. S.

\*Provisional.

Source : *Bulletin on Food Statistics, 1963* — for years 1957-1962 *Bulletin on Food Statistics, 1962* — for years 1954-1956; *Bulletin on Food Statistics, 1956* — for years 1951-1953.

cularly since 1957, the share of other countries came down to less than 20 per cent. P. L. 480 wheat alone accounted for 83 per cent of all wheat imports. In absolute terms the average import other than under P. L. 480 in the six years since 1957 was 4 lakh tonnes a year. While this was less than the level of imports from other countries during the early 50's, it was not very far from the level stipulated in the agreements. Not all these imports were outright commercial purchases either. They include imports of 11.58 lakh metric tonnes of wheat from Canada between 1958 and 1961, either as aid or on deferred payment basis under the Colombo Plan. Besides, 15,000 tonnes were imported from the U. S. A. under P. L. 665, and 9,600 tonnes from Australia under Colombo Plan. This shows that not merely had India come to depend very largely on P. L. 480 wheat imports, but also could minimise commercial purchases as far as possible.

*Rice* : India imported rice before the Second World War and had also imported continuously since the end of the War. Its chief and stable source of supply has been Burma. Imports of rice under P. L. 480 became significant only since 1960 ( there was some import in 1957 ), and constituted nearly half of India's total rice import during these years. From 1953 to 1959, Burma was practically India's only source of supply. But in the two years 1961 and 1962 imports from Burma had decreased though India's total rice imports did not decline. In May 1956 ( before the P. L. 480 first agreement ) India reached agreement with Burma for import of 20.32 lakh metric tonnes in 5 years ending 1960. Subsequently in the later part of 1960 (after the P. L. 480 agreement of May 1960 providing for large wheat and rice imports over a four year period) arrangements for import of 4.03 lakh tonnes were made for the years 1961-62. In December 1962 agreement for import of not less than 1.5 lakh tonnes a year for three years beginning 1963 was signed with Burma. While imports from Burma were more than the agreed quantum in the 5 years ending 1960, they became less subsequently. India had a bumper rice crop in 1960-61 which could permit reduction of its commercial imports from Burma. But the assured imports under P. L. 480 in 1960 might also be said to be partly responsible for the gradual reduction in the imports from Burma, as stipulated in the two agreements with Burma in 1960 and 1962.

Looked at from the point of view of rice production and exports of Burma, it appears that there was sharp decline in the production of rice in that country in 1960-61, and consequent decline in exports. But during the same year, China purchased 3.5 lakh tonnes of rice from Burma. Indeed, increased sales of rice to China and sustained sales to Ceylon and Indonesia more than offset the decline in sales to India, Pakistan, etc. The pattern of Burma's rice trade changed since 1960-61, and the improved production and export situation during the two subsequent years did not lead to increased imports by India and improvement in India's position in the Burma rice market.<sup>24</sup> It is fairly

<sup>24</sup> For details see *Economic Survey of Burma 1964*, Ministry of National Planning, Revolutionary Government of the Union of Burma, Rangoon, 1964.

clear that import of rice under P. L. 480 since 1960-61 affected India's import of rice from Burma to a certain extent, as also of Burmese export trade.

*Coarse Cereals* : India normally did not import any other cereals, like milo, sorghum and maize. Therefore, their import under P. L. 480 did not affect trade with any other country.

*Cotton* : The agreements signed till the end of 1962 authorized India to import cotton under P. L. 480 from the U. S. A. to the extent of 21.5 lakh bales ( of 392 lbs. net or 400 lbs. gross ) approximately. In fact, India had imported nearly 17.14 lakh bales by the end of 1962. This amounted to nearly 88 per cent of her total cotton imports from the U. S. A. during the six years from September 1956 to August 1962, and about 40 per cent of her total cotton imports during this period. Of the total P. L. 480 cotton imports a little over 3 lakh bales were imported during the 3 years September 1956 to August 1959. During this period India's cotton imports from other sources amounted to nearly 12 lakh bales, which was considerably more than the normal marketing obligations stipulated in the first agreement<sup>25</sup>. During the later years, of course, purchases other than under P. L. 480 were much more than stipulated. Thus during the period of P. L. 480 cotton imports, India's imports from other sources were above the quantum stipulated in the agreement. The same however, cannot be said of her normal imports from other countries. India's average cotton import during the 4 years ending August 1956 was 6.56 lakh bales, whereas, the average imports during the later 6 years increased to 7.24 lakh bales. Imports from U. S. A. which formed only about 15 per cent of this in the earlier years, formed 40 per cent during the later. The two other major sources of India's cotton supply were East Africa and Egypt. In absolute terms as well as relatively, the imports from both these countries declined during the P. L. 480 period. The average imports from Egypt came down from 2.25 lakh bales to 1.15 lakhs, and that of East Africa from 2.43 lakh bales to 1.57.<sup>26</sup> Both these countries have supplied long staple cotton to India. But Egyptian cotton is of higher staple length than American cotton. Since the staple length of East African cotton is of the same order as American cotton, its imports are likely to have been affected to some extent by P. L. 480 imports. It is, however, necessary to remember that since 1956 India's cotton imports were under stricter regulation, due to the difficult foreign exchange position and possibly, even without P. L. 480, the imports from these areas would not have been much higher.

<sup>25</sup> The stipulated cotton imports presented in Table 2.12 are not strictly applicable since they related to the projected P. L. 480 cotton imports of \$ 70 million in the first agreement. This was subsequently reduced to \$ 42 million; the normal marketing stipulations consequently would be revised proportionately.

<sup>26</sup> For details and tables, see Chapter VIII, on cotton.

It would thus seem that P. L. 480 imports of major agricultural commodities assumed a predominant position in India's total import of these commodities. At the same time commercial imports from U. S. A ( in addition to P. L. 480 imports ) and from other countries did not fall short of the requirements stipulated under the clause of normal marketing obligation in P. L. 480 agreements. Nevertheless it is seen that the average imports of commodities, covered by P. L. 480 agreements ( mainly, wheat, rice and cotton ), from other countries became smaller since P. L. 480 imports began.

A hypothetical but equally important question in the context of India's overall pattern of trade may be posed here : What would have happened to India's trade with other countries in such commodities, if the imports under P. L. 480 were not available ? A number of extreme possibilities may straight away be rejected. It is impossible to conceive that India would either have imported all this on commercial basis from any country ( including the U.S. ) or would have gone without this quantum altogether. Other considerations apart, India's balance of payments position would not have permitted the first, as we shall see below. As for the second, serious food shortage would have affected the implementation of India's plans of economic development. India would have possibly followed a more stringent food and economic policy at home, while making some additional purchases abroad, being all the time on the look out for easy terms. Thus while in this sense, the other countries might have had some increased exports of such commodities to India, it would have been far short of the actual imports under P. L. 480.<sup>27</sup>

#### *Balance of Payments*

Table 2.14 presents the overall picture of India's balance of payments position since 1950-51. It shows that while India's average annual imports during the Second Five Year Plan period were nearly 50 per cent higher than that during the First Five Year Plan, her exports had, if anything, slightly declined. The main increase in imports was due first to the imports of capital goods ( including machinery, etc. ) followed by foodgrains. Foodgrains imports on the average were one-third higher in the Second Plan period than the First.

<sup>27</sup> In this connection it may be pertinent to consider the import of wheat from Canada and Australia. As between Canada and Australia import from Canada was higher in the years 1951 to 1953, presumably because of higher f. o. b. price of Australian wheat in international market; in the subsequent four years upto 1957 imports from Canada were practically nil. In 1958 and 1959 Canada's share rose again mainly because of the concessional terms of Colombo Plan under which wheat was imported from Canada in these two years. In the last three years upto 1962 import of Australian wheat became sizeable in relation to that from Canada. The f. o. b. wheat prices of Canada and Australia indicate that Australian price was lower during the period of P. L. 480 imports ( 1956-57 to 1961-62 ). Moreover, freight charges from Australian ports would be lower than from U. S. A. or Canada. It is, therefore, likely that imports of wheat from Australia in particular would have been larger in the absence of P. L. 480 agreements.

Table 2.14 : *India's overall Balance of Payments*

(in Rupees crores)

	Total			Annual Average			
	1948-49	1951-52	1956-57	1948-49	1951-52	1956-57	1961-62
	to 1950-51	to 1955-56	to 1960-61	to 1950-51	to 1955-56	to 1960-61	
1. Total imports c. i. f.	2020	3651	5399	674	730	1080	978
(a) Foodgrains	315	600	805	105	120	161	138
(b) Cotton ( raw and waste )	228	385	225	76	77	45	40
(c) Machinery	291	580	1325	97	116	265	255
2. Exports f. o. b.	1643	3109	3063	548	622	613	668
3. Current account (net) (excluding official donations)	-262	-151	-1910	-88	-30	-382	-327
4. Official Capital (net)	-290	+36	+1215	-97	+7	+243	+286
5. Official donations	+2	+109		+1	+22	+39	+44
6. Changes in Reserves ( increase + decrease - )	-583	-127	-599	-195	-25	-120	-6
7. Reserves at end of year*	—	—	—	1029	902	304	297

\*Figures relate to end of 1950-51, 1955-56, 1960-61 and 1961-62. Slight discrepancies would be due to rounding errors.

Source : Tables I, II, IV and V of *India's Balance Payments, 1948-49 to 1961-62*, Reserve Bank of India, Bombay, 1963.

It is estimated that by end of March 1962 India had imported about Rs. 600 crores worth of commodities under P. L. 480. This amounted to nearly 9.4 per cent of her total imports during the period. Nearly 86 per cent of the P. L. 480 imports had been in foodgrains. Therefore, P. L. 480 foodgrain imports amounted to nearly 8.1 per cent of India's imports during the six years ending March 1962. Total foodgrain imports during the six years 1955-62 were of the order of Rs. 943 crores, amounting to nearly 15 per cent of the country's imports, and the larger part of this was under P. L. 480.<sup>28</sup>

It is possible to argue that, given other things, in the absence of P. L. 480 imports, India's gross earnings of foreign exchange would have been somewhat larger, in the following manner. Out of the total rupee funds accumulated by the U. S. through sale of P. L. 480 funds a part, about 13 per cent, is earmarked for U. S. Embassy uses in India. An average annual import of Rs. 100 crores worth of commodities means Rs. 13 crores for U. S. Embassy expenditure. Assuming this expenditure would have taken place even otherwise, India would have received Rs. 13 crores worth of dollars a year, and could have diverted this to import of foodgrains, etc. The limitations of this assumption and the marginal character of such likely exchange resources are obvious. Similar argument may be made regarding 7 per cent of the imported value set aside for aid to American participated private industries in India. By the very nature of such participation, and aid, this is less likely than in case of the former possibility.

It is obvious from the foregoing that India's stagnant exports would not have allowed such large imports of food-grains, without seriously affecting her capital imports and thereby the pace of economic development. Nor would it have been possible for India to finance any substantial part of these imports from her foreign exchange balances. By end of March 1962 her foreign exchange balances stood at less than Rs. 300 crores, while the P. L. 480 imports had amounted to more than Rs. 600 crores by then. It therefore does not appear likely that India could have imported anything like even a fifth of the quantum under P. L. 480, on its own without putting her reserves, as well as the economy to extraordinary strains.<sup>29</sup>

<sup>28</sup> The value of food imports amounting to Rs. 943 crores in the balance of payments statistics, is overestimated because of the procedure of recording P. L. 480 imports of food-grains (For details, see *India's Balance of Payments 1948-49 to 1961-62*, Reserve Bank of India, Bombay, 1963. pp. 15-16). Therefore the actual share of P. L. 480 food imports would be larger than indicated here.

<sup>29</sup> Nor is it likely that India would have been able to divert any part of her foreign aid to importing food from abroad. The foreign official loans and grants amounted to a total of more than Rs. 1,600 crores during the six years ending March 1962. But only Rs. 60 crores of this were un-tied, whereas the rest were tied loans.

## CHAPTER III

### THE COMMODITY IMPACT

#### *Commodity Composition*

The P. L. 480 agreements permitted India to import certain agricultural commodities from the U. S. A. upto the value of specified sums in dollars. Table 3.1 gives the commodity composition of the agreed imports and the quantities actually imported so far.

The important commodities featuring in the agreements were rice, wheat and cotton. Imports of tobacco under P. L. 480 were small in themselves, and were also small when compared to the annual Indian production of about 3 lakh tonnes a year. Corn and sorghum are used as both food and feedgrains. However, corn has other industrial uses too, like in starch industry. Practically all the corn and sorghum contracted for till the end of 1960 had been imported by the end of 1962. While almost the whole quantum of sorghum was imported on government account, only a part of the corn was so imported. The remained like in the case of cotton, tobacco, etc., was imported by private trade and was presumably used either for industrial purposes or as cattle feed. Compared to the total quantity of corn and sorghum production in the country, the imports were very small.

Rice, wheat and other foodgrains were imported by the government alone. Cotton was imported directly by the consuming mills under licences issued by the government. We shall discuss the details of cotton imports in a separate chapter later. Here we shall confine our attention to the foodgrains imports under P. L. 480.

#### *Use of Imported foodgrains : consumption*

During the period of P. L. 480 imports, — indeed ever since 1943, — all foodgrain imports into India have been by the government. These foodgrains upon arrival in India are not passed on to private wholesale trade for marketing. The government sells the grains, at prices fixed by it, to the consumers, through a large number of licensed retail traders. The P. L. 480 grains are purchased on behalf of the Government of India by the India Supply Mission at Washington, and are shipped regularly to India. The Indian Ministry of Food, through their Regional Food Directors, take delivery of these grains at ports, arrange for their further movement inland, as well as storage. They release grain from these stores as and when the State Governments demand these grains for sale through the licensed retail shops to the public.

In table 3.2 are given the annual imports of different foodgrains by the government, the total quantum issued, and the quantity in store with the government, during the period of P. L. 480 imports till 1962.

Table 3.1 : *Authorized and actual imports of P. L. 480 commodities*

Commodity	Unit	(a)		Actual imports till end of 1962 (Quantity)
		Agreements signed till May 1960		
		Approximate Quantity	Value (Million dollars)	
Wheat	'000 M. tonnes	26,801	1,617.95	16,577
Rice	"	1,407	165.85	837
Corn	"	405	20.55	602 (b)
Sorghum	"	197	8.30	
Cotton	'000 bales of 480 lbs.	1,200	160.40	1,305 (c)
Tobacco	M. tonnes	3,856	8.50	3,856 (d)
Soyabean oil	"	3,700	1.00	3,000
Milk powder	"	20,700	3.50	20,700

Notes : (a) Includes all supplements to these agreements.

(b) This merely says that by end of 1962 all stipulated quantities in the agreements till May 1960 had been imported.

(c) This includes further imports under new agreements signed subsequently. Details of the agreements are given below.

(d) New agreements signed on 1st May, 26th November and 30th November 1962 :

Cotton	..	480,000 bales
Tobacco	..	2.76 million lbs.
Corn	..	130'000 metric tonnes
Milk powder,	..	Worth \$5.103 million.
canned fruit	..	
and cheese.		

Source : Details about the authorized imports are taken from "The Indo-U. S. Technical Co-operation Programme", Report 1962, Ministry of Finance, Government of India, New Delhi. Only cotton estimates are from U. S. D. A. data supplied to us. Actuals are from various Government of India publications, as well as the U. S. D. A. data.

In the context of domestic production, and of total imports, wheat imports under P. L. 480 were quite significant, but rice imports were not. Rice imports during these seven years averaged about half a million tonnes a year. Except for about 2 lakh tonnes imported in 1957, regular import of rice under P. L. 480 began in 1960. During the three years since then, it accounted for nearly 40 per cent of India's total rice imports. In all these years, the government issued large quantities of rice to the public at fixed price through licensed shops. The average sales of rice by government came to about a million tonnes a year. These sales were made to keep down the open market price of rice, and provide urban consumers with rice at reasonable prices. The imported rice was not adequate to meet these requirements. Therefore the government undertook procurement of rice at fixed prices in the open market, to meet its commitments. Indeed, the main source of sale of rice on government account

Table 3.2 : *Production, Total and P. L. 480 imports, issues, stocks, etc., of wheat and rice in India.**( in'000 Metric tonnes )*

<i>Items</i>	1956	1957	1958	1959	1960	1961	1962
<i>Wheat :</i>							
1. Total production*	8,870	9,506	8,005	9,958	10,249	10,992	11,806
2. Total Imports**	1,103	2,879	2,709	3,543	4,376	3,090	3,249
3. P. L. 480 Imports	147	2,514	1,898	3,167	4,030	2,122	2,699
4. Procurement	..	17	6	265	395	20	..
5. Issues	1,172	2,230	3,006	3,623	3,676	2,983	3,212
6. Stocks at end of year	147	861	532	679	1,736	1,725	1,674
<i>Rice :</i>							
1. Total production*	28,675	30,232	26,541	32,238	31,464	34,198	34,147
2. Total Imports**	330	747	397	295	699	384	390
3. P. L. 480 Imports	..	197	..	..	257	194	189
4. Procurement	37	202	502	1,503	880	519	479
5. Issues	918	795	872	1,421	1,203	950	1,133
6. Stock at end of year	147	291	312	680	1,031	908	609

*Notes :* \*These are based on the index number of production, with the actual of 1958-59 as the base. The production of 1956 refers to the agricultural year 1955-56, and so on.

\*\*These are adjusted for losses in transit, etc.

*Source :* Bulletins of Food Statistics, and data supplied by the Directorate of Economics and Statistics, Ministry of Food and Agriculture.

in India, was local procurement; imports only supplemented this to a certain extent. Between 1956 and 1960 rice imports partly supplemented local procurement in sales through fair price shops, thereby augmenting consumption of rice, and partly added to the stocks with the government. Since 1960, when P. L. 480 rice imports began on a four-year basis, all these imports were used for current consumption. Per capita production of rice increased from 72.7 kilograms in 1956 to 77 kgs. in 1962 (5.9 per cent increase); per capita consumption correspondingly increased from 74.6 kgs. to 79 kgs.<sup>1</sup> Before 1960, imports provided just about 2 per cent of the total rice consumption in India. Since 1960 this was around 1.5 per cent. The share of P. L. 480 rice in this was even less. The bulk of the increase in rice consumption came from internal production. P. L. 480 imports accounted for less than one per cent of the total consumption of rice in the years since 1960.

The real significant role of P. L. 480 imports has been in regard to wheat. Since 1957 India has been importing very large quantities of wheat, nearly 83 per cent of which was under P. L. 480. These P. L. 480 imports have been equal to about one quarter of India's total production of wheat in the years concerned. Bulk of these imports has been used to increase the quantity of wheat available for consumption. Year after year, as the wheat supplies arrived, they were sold to the consumers through the licensed retail shops and flour mills. Indeed, in every year since 1956 (excepting 1957 and 1960), the issue of wheat by government was equal to or larger than the total imports during that year. Unlike in case of rice, however, there was no local procurement of wheat (except for some 6.8 lakh tonnes in 1959-60); the imports, mainly under P. L. 480, were considered adequate to meet the needs.

Total wheat production increased from 8.9 million tonnes in 1955-56 to 11.8 million tonnes in 1961-62. In per capita terms the increase was from 22.5 kilograms in 1956-57 to 24.9 kilograms in 1961-62, about 12 per cent. But per capita consumption of wheat increased far more: from 26.5 kgs in 1956-57 to 32.0 kg. in 1961-62, i.e., more than 20 per cent. From 1956 to 1962, imported wheat provided, on an average, nearly 25 per cent of the total consumption of wheat in India, and wheat imported under P. L. 480 formed more than 80 per cent of this. The increase in per capita wheat consumption (5.5 kgs.) was due, to a large extent, to increased supply of imported wheat: nearly 56 per cent of the increase in wheat consumption (3.1 kg.) during these years came from additional imports, and only about 44 per cent (2.4 kg.) from increased internal production.<sup>2</sup>

<sup>1</sup> The detailed per capita consumption estimates are given in chapter V.

<sup>2</sup> This is so for the period after 1956 when the P. L. 480 imports were significant. But if one takes the year 1955-56 as a base year, the dependence on imports would be much greater. In the year 1955-56, the dependence on imports was the least; per cap production was 23.6 kg. and per cap consumption was 24.1 kg. With this base the rise in per capita production by 1961-62 was only 5.5 per cent and in per capita consumption 33 per cent. Over these years only about a sixth of the increase in the domestic consumption of wheat came from increased domestic production; the rest were from imports, mainly under P. L. 480.

During these years both production and consumption of cereals other than wheat and rice, did not register any significant change on a per capita basis.

The effect of the large imports and sales on prices of cereals was as expected. While the general price level<sup>3</sup> of all commodities increased by 18 per cent from 1957 to 1962, the cereal prices increased by only 4 per cent, and the price of wheat, in particular, by about 2 per cent ( except for a sharp spurt in 1958-59 ).

### *Stockpiling of grains*

Besides meeting the increasing demands for current consumption, one objective of the P. L. 480 cereal imports was to help create a sizeable buffer stock of different foodgrains to meet emergencies, arising out of crop failures in any particular year. At the time of the first agreement in August 1956, the idea was to build up a buffer stock of 2 million tonnes of foodgrains by the end of the Second Plan period. This target was revised in 1960 to 5 million tonnes by the end of the Third Plan period. While the provision for reserves was not written into the various agreement before 1960, the May 1960 agreement specifically provided for this. It laid down that of the 16 million tonnes of wheat and 1 million tonnes of rice to be imported in the 4 years ending June 1964, one-fourth of wheat and the entire amount of rice ( a total of 5 million tonnes ) were to be set aside as reserves.

At the end of 1956, the Government of India had about 3 lakh tonnes of foodgrains in reserves, half of it wheat and the other half rice. The P. L. 480 agreement signed that year provided for 3.76 million tonnes of wheat and 1.97 lakh tonnes of rice, to be imported over the three years ending August 1959. In fact India imported all the rice and wheat before the middle of 1958, i. e. in less than two years. This was because of shortfall in production in 1958, which required larger sales from Government stocks. Even in 1957 issue of wheat had been quite high ( 2.2 million tonnes ) and only because the imports had been more than expected, the wheat stocks increased by about half a million tonnes. This stock was drawn down in 1958. Two short period agreements in 1958 provided for imports of over 4 lakh metric tonnes, but this was all issued out as soon as it arrived. By the end of 1959, the stock of wheat was less than 7 lakh tonnes. A new one-year agreement signed in November 1959 provided for imports of a further 3 million tonnes of wheat. Even this by itself would not have helped in increasing the stocks, because the sales were also very high in 1960. Two things, however, helped to improve the stocks of wheat in 1960. Firstly, the big 4-year agreement for imports of 16 million tonnes of wheat was signed in May 1960, authorizing annual import of 4 million tonnes

<sup>3</sup> This refers to the Index of Wholesale Prices of All Commodities, prepared by the Economic Adviser's Office.

of wheat. Secondly, for about a year during 1959-60, the Government in India (including State Governments) undertook local procurement of wheat. The wheat import under P. L. 480 during 1960 was more than 4 million tonnes, and the procurement had been of the order of 6.8 lakh tonnes. Despite large sales, therefore, wheat stocks increased by a million tonnes, to 1.7 million tonnes by the end of 1960. Since then, P. L. 480 imports were around 2.4 million tonnes a year and total wheat imports around 3.1 million tonnes. All of this was being sold out, without any addition to stocks.

In regard to rice, P. L. 480 imports were only 1.97 lakh tonnes till the end of 1959, though total imports had been over 1.4 million tonnes in the 3 years, 1957-59. The sales by the Government were nearly 3.1 million tonnes during these 3 years. The bulk of it came from local procurement. A part, and a larger part of the total imports added to consumption, while about half a million tonnes were added to stock by the end of 1959. Bulk of this addition was during 1959, when there was sizeable procurement and practically all imports may be said to have gone to stocks. Similarly in 1960 the stocks increased by 3.5 lakh tonnes, because of large production, procurement, and imports. The increase in stocks amounted to more than the P. L. 480 imports that year. In the subsequent two years (1961 and 1962) however, the stocks dwindled from one million to 6 lakh tonnes, despite average imports of 4 lakh tonnes a year, including about 2 lakh tonnes under P. L. 480. All imports, were sold in the market.

Thus, by the end of 1962, that is, more than 6 years after P. L. 480 imports started, and more than half way through the 4 year period stipulated in the May 1960 agreement, the stock position did not look very encouraging. By the end of 1962, the total stock of foodgrains with the Government stood at 2.3 million tonnes, nearly half a million tonnes less than it was in 1960. The main decline was in stocks of rice; stock of wheat had remained around 1.7 million tonnes.

The imports during the 3 years ending 1962 had been larger than during the earlier 3-year period. Rice imports amounted to half a million tonnes on an average a year; P. L. 480 imports formed 40 per cent of this. Total wheat imports stood at 10.7 million tonnes, and P.L. 480 wheat was 83 per cent of this. But all the imported wheat and rice, found their way to the market. No addition to stock took place.

### *Storage Capacity*

A part of the failure to add to the stocks in recent years, might appear to be due to the failure of the Government of India to import the stipulated quantum under P. L. 480 in the years since 1960. As was noted earlier, the May 1960 agreement stipulated an average annual import of 4 million tonnes of wheat and 2.5 lakh tonnes of rice during the subsequent four years. In fact, this average was achieved only in 1960. In the two following years, P. L. 480 wheat

imports declined to less than 2.5 million tonnes, and rice to less than 2 lakh tonnes. At this rate it was quite clear that by the end of the stipulated period, India would be left with about 4 million tonnes of wheat and nearly 2 lakh tonnes of rice, still to be imported from the U. S. A. While the bulk of the rice imports, meant originally for reserves, would have been consumed, the stipulated wheat reserves, would still be left in U. S. godowns.

We have no definite information on the reasons for the failure of the Government of India to import the stipulated amounts of wheat and rice under P. L. 480. However, an obvious direction in which to look for would be the available storage capacity.<sup>4</sup>

A major requirement for the building up of a foodgrains reserve of anything like 5 million tonnes, would be storage space in the country. By 1962, India's production of cereals was about 68 million tonnes. Assuming that about 30 per cent of this is marketed through normal trading channels, it would be fair to estimate that around 20 million tonnes of cereals pass through normal trade channels to the consuming public in the course of an year. Not all this is marketed by the producers at the same time. Different crops are harvested at different times of the year, and marketing by farmers is also spread over the year to a certain extent, though the bulk is marketed in the post-harvest season. It would, therefore, not be unreasonable to assume the total cereal storage capacity with the trade in the country to be somewhere around 10 or 12 million tonnes. To maintain a buffer stock of 5 million tonnes, the Government of India will have to have extra storage space equivalent to anything between one-third to half of the existing storage capacity with the trade. This gives a rough estimate of the dimension of the problem.

An examination of the available data indicates that the storage capacity at the disposal of the Government of India has been inadequate to accommodate a rapidly expanding reserve stock. Table 3.3 gives the storage capacity available with the Central Government at the end of March every year since 1957.

No information was available about the storage capacity at the disposal of the State Governments in India. But since the stocks with the State Governments at no time exceeded 2 to 3 lakh tonnes, it may be considered unimportant for the present. The above table shows that in every year since 1957 the storage capacity at the disposal of the Central Government was more than the stocks with it at any time of the year<sup>5</sup>. However, it may be noticed that the stocks came very near the available storage in 1958 and 1961. With high rate of imports under P. L. 480 during 1960 the stock in the beginning of 1961 was not very far from the available storage capacity. It is possible, therefore that

4 Another possibility is shortage of foreign exchange. To the extent, payment of freight charges by India involves foreign exchange expenditure, the full quota of wheat and rice imports would have meant an additional foreign exchange of about Rs. 8 crores at the most, a year. It is, however, unlikely that this could be the most important reason for the failure.

Table 3.3 : *Storage capacity with the Government of India.*

( in '000 tonnes )

	At the end of March					
	1957	1958	1959	1960	1961	1962
1. Total capacity	754.9	1201.8	1369.7	1613.14	2521.8	3101.5
2. Of which owned by Government of India	238.7	263.2	376.8	498.9	697.2	1205.5
3. (2) as % of (1)	31.6	21.9	27.5	30.9	27.6	38.8
4. Actual stocks with the Central Government*	231	966	582	785	2014	1973

\* This does not include the quantity in transit and in docks and holds of steamers.

Source : Directorate of Economics and Statistics, Ministry of Food and Agriculture.

the Government reduced the rate of imports in 1961 and at the same time undertook to build up storage capacity to accommodate larger stocks.<sup>6</sup>

Another possible limitation of the available storage accommodation was its suitability for long period storage of grains. Till 1960, the available storage accommodation was not under heavy pressure because the imported grains were immediately sold out to consumers. The U. S. Wheat Utilization Mission, visiting India in early 1960 observed, " . . . . . Rarely did the Mission encounter stocks which had been held in godown storage for a period as long as three months. In most cases the turnover was far more rapid."<sup>7</sup> In the subsequent 2 years, 1961 and 1962, the imports under P. L. 480 were all issued out, and stocks were, if anything, depleted. It is quite likely ( though here again information is lacking ) that the existing storage accommodation would, in general, not be found suitable for storing cereals for a period of a year or more at a stretch.

In view of the shortage of storage accommodation, particularly of the type suitable for long period storage of buffer stocks the Government of India took up a programme of construction of godowns of its own at various places. Table 3.4 gives the details of construction of warehouses by the Central Government.

<sup>5</sup> Detailed state-wise data relating to Central Government stocks and storage space also bear this out. The only odd instances were in Punjab in 1958, 1960, 1961 and 1962, in Rajas than in 1961, in U. P. in 1958, and in Kerala in 1957, when stocks exceeded the available capacity !

<sup>6</sup> By December 1962 the storage capacity owned by the Central Government stood at 1.5 million tonnes.

<sup>7</sup> *Report of the Wheat Utilization Mission to Japan, India, Indonesia, U. S. D. A., January 1961, p. 22.*

Table 3.4 : *Progress of the programme of construction of storage.*  
( in '000 metric tonnes )

<i>Year April-March</i>	<i>Capacity constructed during the year</i>	<i>Capacity at the end of the year ( cumulative )*</i>
1956—57	8.1	8.1
1957—58	24.5	32.6
1958—59	93.1	125.7
1959—60	194.2	319.9
1960—61	132.8	452.7
1961—62	499.1	951.8
1962 April to 1962 November	234.2	1186.0

\* This does not include any warehouse with Government before 1956-57.

Source : Directorate of Economics and Statistics, Ministry of Food and Agriculture.

This shows that the rate of warehouse construction was accelerated since 1958-59, and it increased particularly in 1961 by about 70 per cent. With all this, the total capacity owned by the Central Government by end of 1962 came to 1.5 million tonnes only.

Besides this, as a part of the expanding co-operative credit and marketing provisions, the Central and State Warehousing Corporations also set up storage structures. The storage accommodation built by these Corporations was primarily intended for cultivators and co-operatives. Table 3.5 gives the total capacity of the warehouses of the Central and State Warehouses in 1960-61 and 1961-62.

Table 3.5 : *Storage Capacity with Warehousing Corporations.*  
( '000 tonnes )

<i>Capacity of</i>	1959—60	1960—61	1961—62
Central Warehouses	41	74	115
State Warehouses	N. A.	282	403
Total	N. A.	356	518

The total storage capacity with the Warehousing Corporations was equal to between 10 and 16 per cent of the capacity available with the Central Government. In point of fact, only about 5 per cent of the space of the Corporations' Warehouses had been used by the Government.<sup>8</sup>

Realizing the urgent need for increased suitable storage accommodation, a part of the counterpart rupee funds from sale of P. L. 480 imports was ear-

<sup>8</sup> Though primarily intended for the producers and their co-operatives, the Trade used more than 80 per cent of this accommodation.

marked for construction of modern foodgrain storage (silos, etc.).<sup>9</sup> In 1961 Rs. 10.34 crores were assigned for this purpose, of which Rs. 4.49 crores had been disbursed by November 1962. Assuming that the earmarked amount is expeditiously utilized it would be enough for a built up capacity of 0.43 million tonnes.<sup>10</sup> The total capacity, even after the completion of this programme of construction, will be far short of the requirements of 5 million tonnes of buffer stock. Indeed, the annual imports under P. L. 480 were short of the targeted 4.25 million tonnes by about 1.5 million tonnes, in 1961 and 1962. An increased import quantum of at least a million tonnes in subsequent years, would require as much extra storage accommodation, cumulatively which even optimistic estimates of new construction could not provide. The conclusion is, therefore, inevitable, that the capacity commanded by end of 1962 and the construction programme on hand would be grossly inadequate for the proposed buffer stock, and therefore, the imports will fall short of the stipulated, unless adverse crop conditions in India necessitate still larger issues.

Moreover, a possible difficulty with the maintenance of a large buffer stock would be its turnover, which would be necessary to prevent physical deterioration of the grain. As long as stocks at any time are less than the current imports as well as issues, the problem of turnover can be obviated by issuing out the old stocks and replenishing them from fresh imports. But if the stocks become larger than annual issues and imports (or the imports cease after a time) the Government will have to buy and sell in the open market, if only to turn the stocks over annually. This task would be smoothed if such replacement of imported grains by local grains could take place gradually over the years, as imports and issues continued, so that by the time such imports ceased, the buffer stocks would consist mainly of indigenous wheat. The Government of India, however, did not appear to have any policy of making local purchases, if only to replace the imported stocks with local wheat.

The account relating to the stock shows that during the years of P. L. 480 imports till 1962, India had been able to build up a stock of cereals of 2.3 million tonnes, but this had taken place by 1960. All the rice and most of the wheat imported under P. L. 480 had been consumed during these years. While the rice meant for reserves had been consumed, the wheat earmarked for reserves, had not been imported. The longterm programming under P. L. 480 agreement itself apparently reduced, in the consideration of the Government of India, the need to maintain grain stocks at the level thought necessary in 1960. One may, therefore, say that the wheat reserves were being maintained in the

<sup>9</sup> The Wheat Utilization Mission had emphasized the urgent need for such types of construction for long-term storage.

<sup>10</sup> For arriving at the latter figure we have assumed Rs. 300 per metric tonne as the cost of construction of silos. The F.A.O. Commodity Policy Study No 11, entitled *National Food Reserve Policies in Underdeveloped Countries*, estimated the cost for such silos at Rs. 285 per long ton in 1958.

U. S. A. This would in itself be inopportune, inasmuch as, at the time of an emergency arising out of domestic crop failure, the transport of these stocks could be faced with severe bottle-necks.

However, assuming that the Government had imported the stipulated quantity to store in India, what role is it likely to play? The stock in that case would amount to between 4 and 5 million tonnes by the end of June 1964, almost entirely of wheat. But, as we have seen earlier, wheat sales in India from imported stocks were around 3.0 million tonnes on an average a year since 1958. This was so despite significant increases in domestic production. At this rate of sale, therefore, the stocks at the end of June 1964 would be sold out in less than 2 years' from the date of completion of P. L. 480 imports. This, assuming that wheat production after 1962 continued to increase at the same rate as before. If any shortages in domestic production occur, the quantity will be consumed earlier, and not much will remain as buffer stock. Only if wheat production makes a big jump (say about 20 per cent more than in the past) and then continues to rise from this high level, can the buffer stock be a real buffer after the cessation of P. L. 480 imports. Seen in this light, the failure to import the full authorised quantity to build stocks, and the reasons for this, becomes less important. For, these are really no buffer stocks; all of it has been consumed or will be, within a year or two of cessation of P.L. 480 imports. The real question, therefore, is one relating to the overall policy of use of P. L. 480 imports.

### *Conclusion*

The summary picture of the commodity impact of P. L. 480 imports shows that practically all the imported foodgrains have gone into current consumption. They have added considerably to India's consumption of cereals, particularly of wheat. Wheat price during this period has also remained low compared to that of other commodities. At the same time, in view of the extent of imported wheat during these years, it is quite clear that cessation of P. L. 480 imports in near future will create great difficulties. The large flow of P. L. 480 wheat has been used almost exclusively to increase domestic consumption. No serious effort at building a real buffer stock appears to have been made. A buffer stock is a meaningful proposition only when the general policy is to meet domestic needs from domestic production (and normal imports) by and large. The manner of use of P. L. 480 imports of foodgrains does not suggest this to be the policy, unless one assumes the imports of foodgrains under P. L. 480 to continue at the current rate indefinitely into the future. It, therefore, raises the whole question of India's food policy and the place of P. L. 480 in it. The following chapters will be devoted to a detailed examination of the food policy of the Government of India, the extent and nature of changes in cereal consumption, the effect of the sales of imported grains as well as of other government measures, on prices, and finally, the trend in production of cereals, and the impact of the prices on it.

## CHAPTER IV

### REVIEW OF FOOD POLICY

The food problem has been there in more or less serious form in India since the days of the Second World War. The continuing shortages of foodgrains have exerted a steady pressure on their prices. Consequently the State had to intervene with a positive policy to meet the growing requirements, with a view to avoiding serious price rise and it has been directly concerned in the operation of the foodgrains economy since the war years.

#### *The Background*

It may be useful to briefly recount the circumstances leading to this situation. India is mainly a cereal consuming country in which all the main cereals, rice, wheat, *jowar*, *bajra*, maize, *ragi* and other small millets enter into the daily consumption of people in some part of the country or other. The country has all along domestically produced the large bulk of its cereal requirements. But during the last few decades imports have been a regular feature of the country's food economy. Since rice and wheat are not only the most important cereals consumed, but also the only cereals normally imported, we shall refer to them specifically.

Undivided India was a net exporter of wheat on a fairly large scale, till about the beginning of the great depression in 1929. During the days of the depression India turned into a net importer of wheat, partly due to lower domestic production and partly due to much lower international price of wheat. However, the balance was restored by the beginning of the Second World War, when India had a small exportable surplus of wheat. The Second World War changed the situation considerably. The mounting war expenditure created vastly increased civilian and military demands. International sources of supply were restricted. Domestic production showed signs of decline (owing largely to adverse seasons) particularly since 1944. India had thus become definitely a net importer of wheat. With the partition of India in 1947, the situation with regard to wheat worsened for the Indian Union. In fact, the area constituting Pakistan had all along been a net exporter of wheat, and the area constituting the Indian Union, a net importer. Since 1944, the position of the Indian Union with regard to domestic wheat production had begun to deteriorate. By the time Pakistan became a separate State, the situation had further worsened, mainly due to severe decline in production of wheat in the Indian Union as a result of very unfavourable seasonal conditions and the unsettled situation following partition in the major wheat growing areas. Therefore, during the period 1947-1950, the Indian Union imported annually between 1 to 2 million

tonnes of wheat, whereas its average imports ( mainly from areas constituting Pakistan ) had been around half a million tonnes before that.

The position with regard to rice was somewhat different. Before the Second World War, undivided India was a net importer of rice, mainly from Burma, to the tune of around 1.5 million tonnes. The war cut off this source, and India had to make do with imports of only a few thousand tonnes of rice from the neighbouring territories of Nepal, Bhutan, etc. The cessation of hostilities was soon followed by the partition of India which reduced the deficit of the Indian Union somewhat, in that East Bengal — a large rice deficit area — formed part of Pakistan, whereas the bulk of the rice growing regions were in the Indian Union. At the same time, the overall political-economic situations in India's traditional rice markets in South-East Asia continued to be unfavourable for India's imports and the international price of rice ruled high. Therefore, despite sharply rising domestic demand, India's annual rice imports continued to fluctuate around half a million tonnes since the end of the War.

Thus, from the latter part of the War years India turned into a net importer of foodgrains. The situation created by stagnant or even declining production on the one hand, and the pressure of rising demand due to inflation and population growth on the other, could not be adequately met by mere imports, which could not in the circumstances be plentiful, though they were very large by themselves. Consequently, the government had to resort to elaborate control measures to prevent high prices and inequitable distribution, while at the same time taking steps to increase production, like the Grow More Food campaigns. Since many of these were resuscitated in the later half of the fifties, it may be useful to summarize the more important ones briefly here.

#### *Post-war Controls*

The main features of the controls which had been imposed in 1943-44 were statutory rationing, controlled distribution, price control, restrictions on trade and on movement of foodgrains, procurement, etc. ( i ) With a view to making an equitable distribution of available ( limited ) supplies of foodgrains in different sections of the population and in different parts of the country, Government resorted to rationing of foodgrains. Under ' statutory ' rationing, generally in force in cities and towns, Government undertook to provide specified quantum of foodgrains regularly and at reasonable prices to the population. Under non-statutory and controlled distribution there was no legal obligation on the Government as also on the population, but Government considered it desirable to supplement the market supplies at controlled prices. Since 1948 a new form of distribution was devised : Government authorized dealers to sell foodgrains supplied by it at fair prices, and such distribution came to be known as fair price shops scheme.<sup>1</sup> ( ii ) Government tried to meet its commitments

<sup>1</sup> For a quick understanding of the dimensions of the task in the post-War control era we give below certain data. In the year 1947 controls were at their peak.

to the population from two sources : (a) It purchased the farmers' surplus grain in stipulated quantities at pre-determined prices. Such government purchases from producers and traders, known as "procurement" involved various degrees of compulsion in different provinces of the country. Since the government undertook to meet the needs of the buying public in all parts of the country, it consequently prohibited any private movement of grains from one region to other, except under the authority of the government. (b) Imports of foodgrains were the sole responsibility of the government, which arranged for imports of rice, wheat, and other cereals from exporting countries under agreements from time to time. (iii) All these were summarized in what was known as the Basic Plan, which in effect was the balance sheet of supplies and demand of various provinces of the country with an overall picture showing the deficits and surpluses of different provinces. This sort of balance-sheet enabled the governments of the provinces and the Indian Union to plan movement, procurement, stocks, etc. The commitments of provinces were matched against their internal supplies, and the surpluses and deficits of different provinces juxtaposed to arrive at an economic and equitable distribution throughout the country.

	1947	1951	1953
1. Production of total cereals ( 000 tonnes )	43226	42414	50012
2. Procurement	4278	3826	2085
3. Issues	7180	7991	4602
4. Imports	2371	4800	2035
5. Population affected ( million persons ) as at the end of the year			
By statutory rationing	54.0	46.8	22.7
By other types of rationing	90.6	75.1	48.9
<b>Total</b>	<b>144.6</b>	<b>121.9</b>	<b>71.6</b>

The aggregate shortage of foodgrains and, therefore, the control measures continued till the year 1952-53. Indeed 1950-51 and 1951-52 were very difficult years, with large failure of the *kharif* crop in the first year and of the *rabi* crop in the second year. This led to a fall in supply from domestic production of cereals in 1951-52 and 1952-53, and sharply increased imports.

The agricultural year 1952-53 saw an end to this acute shortage and the supply position improved from 1953 onwards. Production of foodgrains registered a sudden increase in 1953. ( see Table 4.1 )

Table 4.1 : *Index of Production of certain crops in India. (1949-50 = 100)*

Year	Foodgrains							
	Rice	Wheat	Jowar	Bajra	Maize	Small millets	Ragi	Barley
1950—51	87.9	101.1	89.8	83.8	84.4	88.9	87.6	105.0
1951—52	90.1	93.9	96.4	75.8	101.3	97.4	80.4	100.0
1952—53	96.8	112.7	106.6	94.8	123.3	97.9	82.0	122.4
1953—54	118.6	120.0	117.0	135.0	130.2	125.9	115.0	123.2
1954—55	105.8	135.4	132.3	107.8	127.5	126.8	108.6	124.4

Source : Directorate of Economics and Statistics, Ministry of Food and Agriculture.

### Decontrol

In June 1952 Government of India decided upon the policy of gradual relaxation of control, salient features of which were reduction in statutory rationing commitments, restoration of free trade within States<sup>2</sup> and modifications in the method of procurement. In 1952 procurement of foodgrains was abolished in certain States. In 1953, procurement of wheat, and millets and other grains ( hereafter referred to as 'other cereals' )<sup>3</sup> was completely given up. By the beginning of 1954, procurement of rice only was in operation but in July 1954 that too was given up. By the end of 1954 rationing had been completely scrapped, and all the remaining vestiges of control, such as restrictions on movement of wheat between regions, were withdrawn in March 1955.

Thus the post-war controls were gradually lifted from 1952 to the middle of 1955 and once again the economy returned to complete free trade in foodgrains. As production increased and government's commitments dwindled, the government was left with sizeable stocks of grain ( 19.48, 14.65 and 16.67 lakh tonnes at the end of 1952, 1953 and 1954 respectively ). To prevent deterioration of grains in stock, large parts of it were disposed of in the market in 1955. In view of the improvement in internal supply position government also allowed exports of rice; nearly one lakh metric tonnes of rice was actually exported between July 1954 ( when exports were permitted ) and December 1955.

The cumulative effect of the increased production, stocks held and disposed of by the government and possibly a certain measure of speculative activity

<sup>2</sup> Administrative and political units called provinces under British rule are known as 'States' and their Governments as State Governments under the Constitution.

<sup>3</sup> Rice and wheat are considered main cereals; other grains like *jowar*, *bajra*, maize, etc. are referred to as 'other cereals'.

was a continued downward trend in wholesale prices of foodgrains. The price level of every cereal dropped so far and so fast that the government announced towards the end of 1954, a general policy of price support to cereals. This policy was implemented as and when, in the judgement of the government, the need for it arose. In December 1954, Government of India announced their readiness to purchase coarse grains from cultivators at the following prices : Jowar Rs. 5.50 per maund, Bajra Rs. 6 and maize Rs. 5.50 per maund. In April 1955 the price support scheme was made applicable to wheat and in June to gram also. It was extended to rice in August 1955. The minimum prices fixed for these commodities were : wheat Rs. 10.00 per maund, gram Rs. 6 per maund, rice Rs. 11 per maund and paddy Rs. 6.88 per maund. The support prices fixed were too low. The prices of wheat and rice had declined by more than 30 per cent ( 1952-53 = 100 ) by March-June 1955, but they were still higher than the support price fixed by the government. So was the case with *bajra*. The wholesale wheat price was around Rs. 11.5 in most markets, rice around Rs. 14, *bajra* around Rs. 8, *jowar* around Rs. 6, at the time. That the support prices were too low for any significant purchases, is indicated by the very small purchases under this scheme.<sup>4</sup>

Wheat . . . . .	77,626	tonnes
Gram . . . . .	1,320	„
Jowar . . . . .	38,406	„

( Source : *Bulletin on Food Statistics*, 1962 )

By the beginning of 1955, therefore a general belief prevailed, that India had definitely turned the corner in regard to foodgrains supply. If the government had a different assessment of the future prospects, their price and stock policy did not indicate this. In fact, the stock of foodgrains by the end of 1955 stood at about 7 lakh tonnes, most of it rice. No effort had been made to renew these stocks during the year; instead, nearly a million tonnes of grain were sold in the market during 1955 to prevent deterioration. The sharply declining prices of foodgrains, when other prices were more or less steady, did not appear to disturb the government much, nor was it thought necessary to take this opportunity to build up stocks as well as support the prices at an appropriate level. At the same time, the government started negotiations in May 1955 with the U. S. Government for import of foodgrains under P. L. 480. The Foodgrains Enquiry Committee stated in 1957 that this was the result of the Food Ministry's assessment of the need for additional import of foodgrains during the Second Plan period. It is difficult to reconcile this action of the Govern-

<sup>4</sup> These purchases took place between March and June 1955.

ment with its inability to take advantage of the increased production and sagging foodgrain prices to build up stocks from internal supplies.<sup>5</sup>

### *Revival of regulations*

The decline in prices of foodgrains, however, did not continue beyond the middle of 1955. By the end of 1955 the prices began to harden, partly because the production of cereals other than rice and wheat registered a sharp decline (15 per cent decline in 1955-56 compared to the previous year) and even the wheat crop prospects were poor. The natural calamities in the Punjab and U. P., added to this. Government, therefore, began to think of measures to check the rise in prices. From December 5, 1955 the Central Government started releasing stocks of wheat at Rs. 14-00 per maund, which was about Rs. 2/3 below the open market price of wheat in Calcutta and Bombay. The Governments of Uttar Pradesh and Punjab also undertook sale of wheat at important consuming centres in their areas. Export of rice from India was banned with effect from January 20, 1956.

Despite these measures the upward pressure on prices continued. The government policy during 1956-57, therefore, "was to conserve and build up stocks by imports and to regulate distribution by issues through fair price shops."<sup>6</sup> A number of measures were taken towards this end during the year. The number of fair price shops increased. The Reserve Bank of India, in consultation with the Government of India, announced measures of selective credit control to restrict advances to traders against stocks of foodgrains. Such measures were made applicable in case of rice in May 1956 and of wheat and coarse grains in September 1956. Similar directives for strengthening, liberalizing or modifying the restrictions were issued by the Reserve Bank from time to time in the subsequent period, depending on the assessment by the government of the needed action.

In order to reduce the pressure on demand for indigenous wheat, the government offered to supply the roller flour mills with imported wheat, provided the millers agreed to sell the products at stipulated prices. Moreover, not only was sale to the public through fair price shops increased, but also the three metropolitan areas, Bombay, Calcutta and Delhi, were cordoned off in September 1956, and their entire demand for wheat was sought to be met by government out of its stocks.

The increased commitments on the part of government in order to keep prices from rising, required much larger stocks. The stocks of all cereals with the government at the end of 1955, however, were about 7 lakh tonnes. Besides, there was growing realization that the pressure on price was not merely a

<sup>5</sup> The Foodgrain Enquiry Committee also pointed out the lack of consistency and co-ordinated thinking in Government policy at this time. See *Foodgrains Enquiry Committee Report*, November 1957, Ministry of Food and Agriculture, Government of India, New Delhi, pp. 50-54.

<sup>6</sup> *Report of the Ministry of Food and Agriculture*, Department of Food, 1956-57, p. 1.

seasonal phenomenon. The need for imports was not merely to meet shortages in any particular year, but over the years. "Their (Government of India's) estimate was that the country would require 8 to 10 million tons of wheat and 4 to 5 million tons of rice from abroad during the Second Five Year Plan period."<sup>7</sup> Negotiations for imports under P. L. 480 which had started in May 1955 ended in an agreement in August 1956. It provided for imports of 3.76 million tonnes of wheat and 197 thousand tonnes of rice during the three subsequent years. Earlier, in May 1956 the Government of India had signed an agreement with Burma for import of 2 million tonnes of rice in the subsequent 5 years.

It may be noted that while the rise in price was for all cereals, it was most marked in case of millets. However, the various policy measures related almost entirely to wheat and rice. Apparently, it was expected to influence millet prices through the supply and price of wheat.

Thus the year 1956 saw the revival of a number of postwar measures for checking price rise; the central plank of the revised measures, however, was increased imports and issues (sales) to reduce the pressure on supply from domestic production.

The experience of 1957 further reinforced the impression that it was not merely harvest failure that was affecting prices, but the demand for cereals was running ahead of production and therefore the increases in supply from imports had to be of a long term character. Though cereal production registered significant rise in 1956-57 particularly in case of wheat and rice (index of wheat production rose from 131 to 141, and of rice from 114 to 120), the upward trend in prices continued. Between January and June 1957 the wholesale price index (base : 1952-53) for rice rose from 93 to 107, for *jowar* from 119 to 128, and for all cereals from 97 to 104. Only wheat price index dropped from 94 to 89 after a brief spurt in February. Consequently the issue of cereals from fair price shops increased, as did the number of such shops in various parts of the country. Imports continued to increase and they continued to be released into the market. To facilitate the arrangement for distribution of imported grain, the government revived the postwar zonal arrangement in movements of foodgrains. The idea was to group adjacent states which were deficit and surplus with regard to particular grains such that needs of the deficit areas would be, partly at least, met by supplies from the surplus area, thereby reducing the government's commitments. Besides, such arrangement it was thought, would obviate crisscross movements of grains and government could meet the deficits of particular zones more effectively from its stocks. Towards the middle of 1957, three wheat zones were created, and subsequently some rice zones

<sup>7</sup> *Report of the Foodgrains Enquiry Committee, 1957*, p. 21.

also.<sup>8</sup> Movement of scheduled grains within the zones was free, but between zones it was banned except under authority of the government.

Two additional measures were taken to keep check on stocks of indigenous wheat with roller flour mills and curb the activities of speculators. From October 1957 roller flour mills were subjected to a licensing and control order under which they had to submit regular returns about production, stocks, etc. In June 1957 Government of India amended the Essential Commodities Act, empowering the government to requisition stocks from dealers at the average of prices prevailing during the previous three months. Powers under this Act to regulate and license trade were also delegated to the State Governments.

#### *Foodgrains Enquiry Committee 1957*

While all the different measures were being taken in the middle of 1957 to arrest the rise in prices and to conserve stocks, Government was exercised with the overall problem of rising prices, speculation and shortage with no apparent immediate cause. Government therefore concluded that the problem needed thorough investigation and accordingly appointed in June 1957 a committee : ( 1 ) to review the food situation and examine the causes of rising prices, ( 2 ) to estimate the likely demand and supply of foodgrains in the next few

<sup>8</sup> The zones consisted of : ( 1 ) Punjab, Delhi and Himachal Pradesh, ( 2 ) Uttar Pradesh, ( 3 ) Rajasthan, Madhya Pradesh and Bombay (excluding Bombay City, which had been cordoned off since September 1956). The four southern States of Andhra Pradesh, Kerala, Madras and Mysore were constituted into a rice zone from 10 July 1957. Simultaneously, action was taken to ban export of rice and paddy from Orissa ( June 6 ), Punjab ( September 30 ), M. P. and Bihar ( December 20 ). Similar ban on export of rice and paddy from Assam, as well as from Calcutta and the rest of West Bengal was imposed in January 1958.

For a clear understanding of these arrangements it may be helpful to give the broad division of the country along geographical and crop regions. The four contiguous southern States of Andhra Pradesh, Madras, Mysore and Kerala, are predominantly rice producing areas, and account for one third of the country's rice production. But millets and *ragi* are also important cereals in all these States except Kerala which is exclusively rice consuming. While these minor cereals form between 30 and 40 per cent of the total cereal production of Madras and A. P., in Mysore they are about 65 per cent. The four Eastern States of Assam, West Bengal, Bihar and Orissa are also predominant rice areas. Assam, however, is almost isolated from the rest of the country by the territory of East Pakistan, while the other three are contiguous. In all these, rice is practically the only cereal grown, except Bihar which has come wheat ( 8 per cent ) and *Ragi* ( 18 per cent ). In the north, Punjab and U. P. are mainly wheat producing States, though they produce significant quantities of rice as well as millets. Rajasthan is a large millet area, though wheat is its superior cereal grown in significant quantities. Eastern Madhya Pradesh is rice area, while North and West of the State grow wheat and millets. Bombay ( bifurcated into Maharashtra and Gujarat in 1960 ) is mainly a millet growing area, though it grows sizeable quantities of rice and wheat.

Traditionally Andhra Pradesh, Madras, Orissa and Madhya Pradesh export rice while Punjab, Madhya Pradesh and Rajasthan have surplus wheat. Bombay, Kerala, West Bengal and Bihar are deficit, particularly in regard to rice, and wheat.

years, and (3) to make recommendations to ensure a suitable level of prices for consumers as well as producers.

The report of this Committee was submitted in November 1957. Because the Committee's estimates of future demand and supply and its recommendations regarding food administration are of interest for our purpose, we give in the following a brief summary of its findings, before continuing the present narration of food policy.

After a review of the food situation and policy in the country during the past 30 months, the Committee came to the conclusion that the factors operating were deeper than mere seasonal fluctuation in production. In the first place, the general factor was the vastly increased tempo of investment expenditure and deficit financing since 1955. It showed that deficit financing in the public and bank credit in the private sector had increased substantially, causing a corresponding price rise in general, and pressures on specific sectors in particular. Moreover there were additional specific factors operating on the prices of foodgrains. Increased income and urbanization, in addition to increasing population had given rise to a greater demand for cereals, particularly of the superior variety, namely wheat and rice. Stock building by traders in anticipation of price rise, as well as laying in of stocks by producers and consumers were also not ruled out, though the Committee considered the speculative activity of the traders as the more important of these.

On the supply side, fall in production of millets in particular was one immediate reason for the rise not only of millet prices, but also of prices of wheat and rice. Besides, the Committee thought that marketed surplus of cereals had declined, despite increased production, due to proportionately larger retentions by farmers, whose incomes had risen, and cash demands had been satisfied by higher prices and liberal credit. This resulted in lower per capita non-farm availability of foodgrains.

In view of planned development activity these trends and pressures were to continue. The Committee, therefore, made an assessment of the likely demand and supply of foodgrains during the Second Plan period to estimate the nature of deficit, if any. After considering various factors like population, urbanization and income, the Committee estimated the increase in total consumer demand (at constant prices) for foodgrains by the end of the Second Plan to be between 14.4 and 15 per cent, i. e. a total of about 79 million tons, of which superior grains (i. e. wheat, rice and pulses) were to be 56 and millets 23 million tons.

Estimates for supply of foodgrains by the Committee, however, gave a figure of about 77.5 million tons. This showed that given the trends at the time, supply was going to be short of the estimated demand by about 2 to 3 million tons a year, during the Second Plan period.

The Committee, therefore, came to the conclusion that the food problem was likely to remain with us for a long time to come. Both general and specific factors pressing on demand for and prices of foodgrains would create a conti-

ñuous gap between supply and demand. Nor was the instability of prices likely to vanish. In view of this, the Committee felt positive action was necessary to keep the pressures to the minimum and regulate the food economy accordingly.

In its review of the food policy till 1957, the Committee was constrained to conclude "that the likely implications of economic development had been inadequately assessed."<sup>9</sup> "A basic weakness was the absence of a well defined and coordinated policy of price stabilization and of a machinery to implement it. Nor was there within the administration a unit charged with the specific responsibility of studying the variation of prices in their ramifications and considering by regions and sections of the economy measures for their comparative stabilization..."<sup>10</sup> In this connection the Committee pointed out the failure of government to build up adequate stocks during 1954-55, to provide reasonable price support, to make full use of administrative tools like the Foodgrains ( Licensing and Procurement ) Order, 1952, to undertake adequate storage construction programme, as evidence of the lack of clear thinking and well defined policy. The Committee attributed many of the shortcomings of policy and execution "to the strong popular preference for total decontrol of foodgrains."<sup>11</sup>

In view of the difficult prospects for the food economy, the Committee advocated a definite long-term policy by the State to guide the economy over the future years. It ruled out complete free trade in foodgrains as undesirable; nor did they think full control and rationing as necessary to meet the situation. They visualized a type of government intervention and control that would be "largely of a flexible and indirect character, designed to be adapted to changing situations."<sup>12</sup>

The central plank of the food policy advocated by the Committee was stabilization of prices of foodgrains. As guide lines for policy, it stressed the need to recognise that "in a developing economy a secular tendency to price rise will exist, though prices will fluctuate... It is sharp and abrupt rise or fall in prices, which cause all kinds of disparities,... that has to be avoided."<sup>13</sup> Stabilization of prices did not mean rigid fixation of price level which did not take into account variations arising out of changes in demand, costs of production, and seasonal characteristics, etc., for needed adjustment in allocation of resources. In fixing prices, therefore, it suggested that all relevant factors including cost of production of competing crops, the relative movements in prices of competing products and required factors, relative costs of living and income of agriculturists and others, etc., had to be taken into account. It emphasized

<sup>9</sup> *Foodgrains Enquiry Committee Report*, 1957, p. 50.

<sup>10</sup> *Ibid.*, p. 51.

<sup>11</sup> *Ibid.*, p. 53.

<sup>12</sup> *Ibid.*, p. 77.

<sup>13</sup> *Ibid.*, p. 54.

that there could be no single formula for this purpose, as the decision on the price range needed to be *ad hoc*, particularly in view of the necessity to take prospective supply and demand position into account.

Any policy of stabilization would mean regular operation by the Government in the market for buying and selling. To facilitate this action, as well as to rectify certain structural deficiencies in foodgrains trade in the country, the Committee recommended socialization of a part of wholesale trade, a system of licensing of private trade, and such other measures.

It also advocated measures like the fair price shop scheme, zonal restrictions on grain movements, compulsory procurement, selective credit restrictions, etc., when the necessity arose. It also made some detailed suggestions regarding the manner of operations of some of these measures. The important point was that all measures had to fit into the general pattern of policy relating to price stabilization.

For this purpose the Committee recommended the setting up of "a high powered authority for the formulation of the policy for price stabilization in general and determining the programme for enforcing it from time to time, and, secondly, the establishment of a suitable organization to execute that part of policy and programme framed by this authority as may relate specifically to purchase and sale operations in the field of foodgrains."<sup>14</sup> The policy making body could be named the "Price Stabilization Board", and the executive organization "Foodgrains Stabilization Organization". While the complex nature of the task of taking an integrated long-term view of the price problem needed a high powered Board, the Organization's chief task was to be the operation of the buffer stock by buying and selling in the market, within the limit of prices fixed by the Board.

Thus the Committee visualized the object of food policy as stabilization of prices, without upsetting the relative price structure, that may have undesirable effects on consumption, production, and incomes. It was to help regulate both consumption and production in the context of likely chronic shortages for some time to come. The buffer stock, imported and locally obtained, had to fit into this pattern of policy, and indeed was to be an important instrument for the execution of such a policy.

The Foodgrains Enquiry Committee submitted its Report to the Government in November 1957. But the Government of India did not take any decision on it immediately, and in the end could not accept the basic recommendations of the Committee. Of course, a number of the ancillary measures advocated (or approved) by the Committee were already in operation. But the main proposals of the Committee, those relating to the Foodgrains Stabilization Organization and the Price Stabilization Board, were not accepted by the Government. This implicit rejection of any further extension of government intervention and activity into the food economy of the country as a long term

<sup>14</sup> *Ibid.*, p. 81.

measure, left only one important instrument of control in its hands, namely imports from abroad. The other ancillary measures, to some extent already in operation, and also advocated by the Committee, were to be basically *ad hoc* measures, used only when and where necessary. Another implication of this dependence on imports and issues was that any price stabilization measure by the government would be more easily operative, depending on the size of the stocks with the government, in putting a lid on the prices than providing an effective and relevant bottom to them. The narrative below would reveal these basic tendencies in the food administration of India in the period following the Foodgrains Enquiry Committee Report till 1962.

By the time this Report was submitted there were definite indications that the 1957-58 rice crop was going to be relatively poor. Price of rice was on the high. Therefore, between November 1957 and January 1958, maximum prices of rice at which wholesale transactions (i. e. exceeding 10 maunds at a time) could be carried out were announced in a number of rice growing States, under the provisions of the Essential Commodities Act. The zonal movement restrictions obliged the government to meet the requirements of the deficit areas. The imports of rice being rather limited to meet all these requirements, government began procuring paddy and rice in normally surplus States at statutorily fixed prices. As the price situation became more and more difficult in course of 1958, the movement restrictions and statutory price fixations were extended to more and more areas in the country.

The year 1958-59 turned out to be a very difficult year. Wheat production in the agricultural year 1957-58 registered an even sharper decline (18 per cent) than rice (12 per cent). Total cereal production declined by 8 per cent. Naturally, prices of all foodgrains, and rice and wheat in particular, showed a sharp upward trend.

Unlike in case of rice, the government was importing large quantities of wheat under P. L. 480. Since the beginning of these imports in 1956, it had been issuing wheat in the market in increased quantities. This rate of issue led to quicker utilization of imported P. L. 480 wheat for immediate consumption; quantities scheduled for import over three years were actually imported and consumed within two years. The Government of India, therefore, signed two more agreements under P. L. 480 with the U. S. A. in June and September 1958, for 597 thousand and 3.44 million tonnes respectively of wheat. But before the imports under these fresh agreements could arrive, the government stocks and consequently issues, had begun to decline and price of wheat began rising fast in the latter half of 1958. Therefore, government took further administrative measures to arrest the prices. Movement restrictions on wheat and wheat products were extended to West Bengal and the Southern zone. All foodgrain dealers were required to be licensed by the government, which implied submission of periodic returns about their purchases and stocks. The roller flour mills in practically the whole country were prohibited from purchasing wheat in the open market, but only from government stocks. This was

expected to ease the pressure on the domestic wheat market. And finally, to curb speculative activity, recourse was taken in some States to Section 3 (3 A) of the Essential Commodities Act, under which the price of the commodity should exceed at no time (during the duration of this order) the average of the preceding three months' prices. No efforts, however, were made during this period to procure wheat. The chief dependence of the government was on P. L. 480 imports and the zonal restrictions were meant to facilitate government's operations in this context.

The year 1958-59 saw very sizeable increases in government issue of wheat and rice, mainly wheat. All the wheat issued was imported, while half of the rice issued had been procured internally. The procurement of rice by itself was, however, small, only about half a million tonnes in 1958.

### *State Trading Scheme*

Government was greatly concerned about the rapid increase in prices of cereals, mainly rice and wheat during 1958, despite various administrative measures and very large imports and issues. The price rise had put the Second Five Year Plan under pressure. It was felt that if prices of foodgrains could not be kept within limits, the planned resources for development would turn out to be inadequate. The apparent failure to impress the market by the government measures led the National Developmental Council to take a decision in November 1958, in favour of State Trading at the wholesale level in cereals. Production of cereals in the agricultural year 1958-59 promised to be good and it was thought appropriate to start State Trading towards the end of 1958 when the new rice crop was to reach the market.

The ultimate pattern visualized was collection of farm surplus through service co-operatives and channeling the surplus through marketing co-operatives and apex marketing co-operatives for distribution through retailers and consumers' co-operatives. During the interim period, it was proposed that more and more of wholesale trade be taken over by the co-operatives. The government, however, was to step in to fill in the gap immediately. It envisaged that

(i) Government would progressively acquire larger proportion of marketed surpluses with a view to controlling the market.

(ii) The wholesale traders would be permitted to function as licensed traders who would make purchases on their own behalf but be required to pay specified minimum prices to the farmers. While the Government would have the right to acquire the whole or a part of the stocks from the licensed traders at controlled prices, the traders would be at liberty to sell the remaining stocks to retailers at prices not exceeding the controlled prices.

(iii) State Trading was to be confined in the initial stages to two major cereals, viz. rice and wheat. To ensure that producers got at least the minimum price, Government was to set up an agency to make direct purchases from producers (on voluntary basis).

(iv) Uniform purchase prices were to be fixed for a State or region; controlled prices for wholesalers were to vary from region to region within a State.

(v) Retail prices were not to be controlled unless the State Governments thought it very necessary, but efforts were to be made to influence them by enlarging the fair price shop operations and by formation of consumers' co-operatives. In the National Development Council, it was clarified that for each State fair prices would be fixed for purchase from farmers after considering relevant factors to assure minimum prices to producers.

The important distinction between the State Trading Scheme as envisaged by the Government of India in November 1958 and the proposal for the Price Stabilization Board and the Foodgrains Stabilization Organization recommended by the Foodgrains Enquiry Committee was that, while in the latter there was to be a positive price policy determined on the basis of a number of considerations, both long-term and short, which was to be executed by the operation of buffer stocks, the former did not appear to have any such policy. The latter viewed the economy as a whole and proposed detailed steps to fit into this integrated pattern, while the State Trading Scheme left each State to do as it pleased. There was no overall view.

The wholesale trade and milling establishments having already been licensed, the State Governments were asked to take requisite measures to implement the State Trading Scheme.

As part of the State Trading Scheme, the Governments of Bihar, Mysore, Madras, Punjab, Uttar Pradesh and West Bengal fixed different percentages of quantities of foodgrains brought for sale in the market to be procured compulsorily from millers and wholesale dealers of rice and paddy out of their stocks on the specified dates and of their subsequent purchases. This fixation of a proportion of marketed quantities and procured by government was known as 'levy'. In certain other rice surplus States like Madhya Pradesh and Andhra Pradesh, procurement was voluntary, in the sense Government purchased any quantities offered to it at fixed maximum prices. In May, soon after the harvesting of the new wheat crop, State Trading was also extended to wheat in the Punjab, Madhya Pradesh and Uttar Pradesh. The levy system was adopted for wheat in U. P. whereas there was no such thing in the other two States. Except in case of wheat in the Punjab and M. P., procurements of paddy and rice were at statutorily fixed maximum prices. In the Punjab they were at market prices, and in M. P. at certain specified prices that were statutory or maximum. Total quantities of rice purchased in 1959 in all the States amounted to 905 thousand tonnes on Central Government account and 598 thousand tonnes by the State Governments. A glance at the production of rice in some of these States would reveal how inadequate were the actual quantities procured in relation to production, in the light of the levies fixed by governments.

State	Percentage of levy fixed		Production of rice 1958-59 season.	Procurement by State Governments between Nov. 1958 and Oct. 1959
			( 000 tonnes )	( 000 tonnes )
Bihar	25	rice	4490	20
Madras	Rice : 50	millers	3133	115
		dealers		
Mysore	Paddy : 50	dealers	1339	29
		Rice : 50		
Punjab	75	millers and	552	95
		dealers		
U. P.	65	dealers	3032	96
West Bengal	25	dealers	4123	76

Even if it is assumed that only about 25 per cent of the total produce would be marketed, it appears that not even 10 per cent of the marketed surplus came into the hands of the Government in most of the States. Another fact to be noted is the absence of any levies in the traditionally surplus rice producing States of Andhra Pradesh, Orissa and Madhya Pradesh.<sup>15</sup>

The experiment of State Trading was begun in West Bengal and other usually deficit States. Actually the scheme came into difficulties in West Bengal in the first few months of 1959 as market arrivals were stated to have declined and millers could not obtain paddy. The Government of West Bengal abandoned compulsory levy and *ipso facto* State Trading, in June, 1959; Bihar, Madras, Mysore followed suit in the following months.

The failure of the State Trading scheme could be ascribed to a variety of circumstances. (1) While production of cereals, particularly wheat and rice, was high in 1958-59, this was not invariably the case in all States. Thus rice production in West Bengal was lower in 1958-59 than in 1957-58. Wheat production in U. P., though larger than in 1957-58, was less than that in 1956-57. In Bihar, rice production had been fair after two successive years of bad crop. In view of the zonal restrictions on movement of grains, the prices of individual cereals were influenced mainly by internal production. In such circumstances, fixation of a purchase price by government lower than the one warranted by the demand and supply conditions in the market, was sure to lead to stocking by producers and, illegally, by traders. This is what happened, for example, with regard to rice in West Bengal and wheat in U. P. In U. P. maximum wholesale price of wheat fixed by government was equal to or even lower than the average price in the year 1956-57, and production in 1958-59

<sup>15</sup> True, a levy at 40 per cent was announced in Andhra Pradesh in July 1959 but was not enforced, while in Orissa a levy of 20 per cent came to be announced later in December 1959 when State Trading had been given up as a failure.

was much less than in 1955-56. It was the same with regard to wheat in Madhya Pradesh and rice in Madras and Mysore. Some of these States were deficit in the internal supply of the grains referred to. In an economy under inflationary pressure and a continuing deficit in internal supply, it would be futile to expect much procurement at low prices, without resort to some form of compulsion. (2) The State Trading scheme was confined to making purchases from (or levies on) wholesale dealers and mills. No effort was made to reach the primary producer. Consequently, either the medium and large producers did not market their produce when expected, or they, in league with traders, surreptitiously disposed off stocks, without the knowledge of the government (3) Where offers of sale to government at fixed prices were voluntary, the government confined its operations to certain markets only and to large lots only. (4) A good market for other crops together with availability of easier and larger volume of credit, enabled farmers to hold on to stocks for longer periods. Therefore, it is only in surplus areas where production was good, and the farmers had no other crops to sell (like in case of the rice farmers in Orissa and Madhya Pradesh), that the government could make significant purchases even on a voluntary basis.<sup>16</sup>

It would, therefore, appear that the scheme was launched without a proper examination of the situation obtaining in different States, in a hasty and half-hearted manner.<sup>17</sup>

The failure of the State Trading scheme resulted in the abandoning of maximum price control measures and procurement, in the deficit rice growing States, like West Bengal, Bihar, Madras, Mysore, etc. In the surplus rice States, rice procurement continued under the levy system and the maximum price control orders also continued. Wheat procurement which had started as a part of State Trading operations in May 1959 (soon after the wheat harvest), was continued through the 1959-60 season, though the total procurement was not large. Since the cereal production of 1958-59 had been better than in the previous year, prices were lower in 1959-60 but not uniformly so in all States. While in case of rice, government made an effort to procure internally and fix maximum prices, it chiefly depended on imports and issues in case of wheat. In November 1959 the Government signed a further agreement under P. L. 480 for imports of 3 million tonnes of wheat and 210 thousand tonnes of rice.

The total rice crop of 1959-60 was not better than in the previous year, but since Orissa's rice crop promised to be better the government took immediate steps to reduce some of its own commitments by making surplus Orissa and deficit West Bengal into a single zone. Besides, in course of 1960, it relaxed

<sup>16</sup> For a detailed examination of the experience of State Trading at this time see, "Report on an Enquiry into the pace and pattern of market arrivals of foodgrains (season 1958-59)", Directorate of Economics and Statistics, Ministry of Food and Agriculture, New Delhi, 1959.

<sup>17</sup> The Indian Food Minister who resigned on the issue in 1959, admitted as much in his speech before the Parliament.

the controls on rice to the extent of reducing the size of the levies on traders and rice mills in those States in which rice procurement was still in force.

With regard to wheat the change was even more sharp. The wheat crop of 1959-60 recorded a further improvement over the previous year. At the same time, in May 1960, the Government of India concluded a long term agreement under P. L. 480 with the U. S. government for importing 16 million tonnes of wheat and 1 million tonnes of rice over the following four years ending May 1964. These two circumstances naturally created a situation in which wheat prices declined still further in most wheat growing areas. Assured of large imports of wheat over a number of years, the government stopped whatever little procurement of wheat taking place in the U. P., Punjab and Madhya Pradesh, and the downward pressure on wheat prices continued unchecked during the rest of the year. The total issues (as well as imports) of wheat recorded an all-time high in this year.

Encouraged by these conditions, the government set on the road to a further withdrawal of all restrictions in the wheat market. In November 1960 the States of Gujarat, Maharashtra and Madhya Pradesh were reconstituted into a single wheat zone. A few other such measures followed in the subsequent months, and finally, when the 1960-61 wheat crop recorded a more than 7 per cent increase in production, the zonal movement restrictions all over the country were abolished in April 1961. Simultaneously, the roller-flour mills which had been prohibited from buying wheat in the open market during the preceding 3 years or more, were given the option of buying from government stocks at Rs. 14 a maund, provided they sold their products at prices fixed by the government. In May 1961 the Reserve Bank of India withdrew all restrictions on scheduled Banks' advances to traders against stocks of wheat. The government's policy hereafter remained one of issuing any quantity of wheat demanded through fair price shops and by roller flour mills, at a wholesale rate of Rs. 14 per maund.

The rice crop of 1960-61 had registered as large a rise (8.7 per cent) as wheat, but no such drastic changes in policy were undertaken, since, apparently, the stocks with the government did not permit this. Some minor modifications in movement restrictions and maximum price fixation, as well as in the proportion of the levy for procurement of rice were made during the year.

The crop year 1961-62 recorded a slight decline in rice production, and hence, no further relaxations in controls were made. There was instead further tightening all along the line when the 1962-63 rice crop was feared to be even smaller. Between October and December 1962 levy rates were enhanced in most States, and procurement was extended into some where no procurement had been taking place.

With regard to wheat the year 1962 saw a still further rise in total production (7 per cent). Therefore, in March 1962 government announced a uniform minimum (support) price for wheat at Rs. 13 per maund. It is no wonder that at such low prices nobody offered to sell any wheat to government.

*Summing up*

The above review of the food policy of the Government of India shows that since 1956 till the end of 1962 the aim was to keep the prices of cereals steady with the minimum of direct intervention in the market for such cereals. Various measures were taken, keeping this end in view, with varying emphasis during these seven years. They may be summarized as follows :

(1) Complete ban on exports of cereals from the country since January 1956.

(2) Import of foodgrains, particularly of wheat from the U. S. A. and rice from Burma and the U. S. A. and building up of a central reserve.

(3) (a) Issue of wheat and rice from state reserves to retail consumers through fair price shops at fixed prices.

(b) Ban on purchase of indigenous wheat by roller flour mills and supply of imported wheat to them at fixed price; regulation of prices of wheat products of the mills.

(4) Formation of wheat and rice zones and supplementary movement restrictions

(5) Selective credit control on advances to traders by scheduled banks against stocks of individual cereals.

(6) Regulation of trade by means of licensing orders.

(7) Announcement of statutory maximum and minimum prices.

(8) Procurement, mostly of rice in surplus States, at such prices, for sale through fair price shops.

Measures (1) and (2) were meant to augment the availability of cereals in the country and measure (3) was meant to check price rise through increased supply at a 'reasonable' price. The zonal arrangements were meant to separate deficit areas in order to meet their needs from government stocks. Measures (5), (6) and (7) were administrative measures to keep speculative elements in check. Both measures (4) and (7) also were meant to facilitate internal procurement of grains for sale through fair price shops.

In regard to wheat it is measures (2) and (3) that have been the main policy measures. The zonal arrangements continued as long as imports were not assured over a long period. With assured large imports under the P. L. 480 agreement of May 1960 these were given up. Since imports of rice have not been large enough, the regulatory measures in respect of rice have remained without break all these years.

Over the years, there was no clear formulation of the concept of price stabilization by the government. The Foodgrains Enquiry Committee's recommendation for the formation of a Price Stabilization Board was not accepted by the government. Though occasionally, as in case of the decision relating to State Trading, the government listed factors that should enter into the 'fixation' of prices, there were no official indications of the considerations behind the various prices — issue, procurement, maximum, minimum — announced by the government from time to time. One is, therefore, left to guess these from the

various prices fixed by the government from time to time.

When in 1956-57, the price of wheat rose from the very low level of 1954-56 (the all-India average of about Rs. 12.50 per maund) to around Rs. 15.50 in 1956-57, the government began taking measures to check it. Since then it had been selling wheat through fair price shops and to flour mills at the wholesale rate of Rs. 14 per maund, and this rate has remained unchanged till this day.<sup>18</sup> During the years 1958-60 the maximum price for wheat (or the price at which government was willing to buy in the market) in the three major wheat growing States, was also around Rs. 14.<sup>19</sup> And in 1962 when the government announced a support price for wheat, the price fixed was: common white wheat Rs. 13/-, superior farm wheat Rs. 14/-, and red wheat Rs. 12/-. The maximum, minimum and procurement prices on the one hand, and the issue price on the other, suggest that the government's efforts were directed at stabilizing the average wholesale wheat price, in the major producing States at least, at Rs. 14 per maund, at any rate, around the 1956 level.

The wholesale issue price of rice also from government godowns remained unchanged since 1956. As for the maximum prices, there were many varieties in various States for which detailed price announcements were made since 1958. As the wholesale market price quotations were fewer, it is not easy to compare them. However, a comparison of the maximum prices since 1958 did not indicate any significant changes generally.

On the whole, it appears that the objective of the price policy of the government was to keep the price level of the cereals, mainly wheat and rice, stable around the 1956 level.

In the case of wheat, the burden of this task fell almost entirely on the issue of wheat imported under P. L. 480. During this period, therefore, issue of imported wheat came to form nearly 25 per cent of the total domestic availability of wheat. In respect of rice, imports, whether under P. L. 480 or otherwise, were relatively small; therefore much greater reliance was put on zonal restrictions, price controls, procurement, etc. The issues of rice, imported and/or locally procured, constituted only about 4 per cent of total rice availability in India during this period. For influencing the demand for and prices of cereals other than wheat and rice, which form nearly 40 per cent of India's total cereal production, the government appeared to have depended largely on the wheat supplies and prices. There was no effort either to build stocks of these, or to control their prices directly during the period.

During the seven years since 1956, the population in the country registered a steady increase at a rate of more than 2 per cent per annum. Per capita income also rose. Total investment expenditure, public and private, increased consider-

<sup>18</sup> Till end of 1964.

<sup>19</sup> In M. P. (i) Common Red Wheat Rs. 13.00, (ii) Pissi (white) Rs. 14.00 (iii) Sarbati and Chandausi Rs. 15.00. In Punjab: (i) Common White Wheat Rs. 14.00, (ii) Superior Farm Wheat Rs. 15.00. In the major wheat growing areas of U. P.: (i) Red Kathia Rs. 13.00 (ii) White Rs. 14.00, (iii) Farm Superior Rs. 15.00.

ably. There was a sizeable net deficit financing for the purpose. These generated inflationary pressures, as a result of which the general price level, as well as that of most commodities, rose considerably. In this context the task of keeping cereal prices at or around the 1956 level was, to say the least, bound to put considerable strains on the government's resources.

The dangers of such a policy can be looked at from two different points of view. On the one hand, it would be unfair to the producer farmer to hold the price of a particular commodity at an arbitrary level, while the general price level as well as that of competing crops, and of commodities entering into his consumption and production, are rising. Nor would it appear right from the point of view of the production of such commodity.<sup>20</sup>

On the other hand, it is quite clear, as the experience of these years shows, that the price of a particular cereal can be kept from rising when all other prices are moving upwards, only with very large additional supplies. The P. L. 480 imports have been used almost exclusively for this purpose. The question is, how long can this continue? As soon as the P. L. 480 supplies stop, the prices will rise sharply, for the market would have been accustomed to a high level of consumption maintained rather artificially. The implications of the food-grains price policy of the government thus appear disturbing.

In view of this, it is necessary to make a detailed examination of the trend in consumption of various cereals in the country during the seven years under review to find out the extent and nature of changes in it, as a result of the government's handling of the imported grains. It is also necessary to see how far the sale of imported grains has influenced the prices of individual cereals, and how far the other ancillary measures to regulate prices have been effective. Attention also need be given to the effect of the price policy of the government on the domestic production of the cereals concerned. The subsequent three chapters will deal with each of these aspects.

<sup>20</sup> It is necessary in this connection to recollect the approach of the Foodgrains Enquiry Committee to the policy of stabilization of foodgrain prices.

## CHAPTER V

### TREND IN CONSUMPTION OF CEREALS

Imports of foodgrains under P. L. 480 increased the consumption of cereals in the country. The policy of the Government was to issue any quantity of wheat demanded by the roller flour mills, and by the retail consumers at a fixed low price. It is necessary therefore to find out how these large issues of wheat affected the consumption of different cereals in the different regions of the country, in what form the increased supply of wheat came to be consumed, and what classes in society were the beneficiaries of the Government's policy. This chapter will be devoted to a discussion of the trends in consumption of cereals in India during the period of P. L. 480 imports, in order to bring out these aspects of the problem.

In view of the limitations of data it is not easy to estimate the consumption of cereals in India during a year, and no satisfactory estimates are yet available. The most important gap in this respect is the one relating to stocks with traders and farmers. Since in India this could be an important factor, in view of sharp fluctuations in production of cereals from year to year, the estimates cannot be properly called estimates of consumption. We shall refer to them as "availabilities", though the expressions availability and consumption will be used interchangeably in this chapter and report. In the Appendix to this chapter we describe in detail the method followed in estimating consumption or availability, and provide detailed Tables containing the estimates.

#### *Total consumption*

Total consumption of cereals in India increased considerably during the decade of the 50's and the early years of the 60's. It increased from 50.8 million tonnes in 1951-52 (the first year of the First Five Year Plan) to 59.1 million tonnes in 1955-56. During the six years from 1956-57 to 1961-62 (which cover the Second Plan period, and the first year of the Third Plan, and are also the years of import under P. L. 480) the total cereal consumption increased from 59.1 to 71.7 million tonnes. Thus, during the four years following 1951-52 there was on an average 4 per cent increase a year in aggregate consumption of cereals, and in the subsequent six years the increase was a little less than 3.5 per cent a year.

Cereal consumption during the years since 1956-57 increased at a greater rate than domestic production, while it was the opposite during the earlier period. The former was made possible by the large imports under P. L. 480 since 1957. Availability of cereals from domestic production increased from 46 to 57.8 million tonnes (nearly 6 per cent a year) between 1951-52 and

1955-56, and from 57.8 to 68 million tonnes (less than 3 per cent a year) during the subsequent 6 years. The first two years of the First Plan period were years of acute crop failure and hence large imports took place to supplement domestic production. With very large domestic production during the last two years of the First Plan, imports declined sharply. But these turned out to be just lucky years, for the very high rate of increase in production did not keep up in later years. Since then imports again came to occupy an important place. During the 6 years since 1956-57, imported cereals, mostly under P. L. 480, have accounted for 5 per cent of the total consumption of cereals in India.

Domestic production fluctuated from year to year, and supply from imports came in to make up for deficits. But while with increasing domestic production during the First Five Year Plan period, supply from imports declined, during the later six years, whatever the changes in production from year to year, the supplies from imports went on increasing.

During these 11 years, the population of India increased at a rate of over 2 per cent per annum. Therefore, changes in per capita consumption of cereals would provide a more significant comparison.

Table 5.1 gives the per capita availability of cereals, and the part of it which is from domestic production, during the years 1951-52 to 1961-62.

It is seen that while average per capita availability during the six years ending 1961-62 increased by 8.8 kilograms compared to the average for the five years ending 1955-56, that from domestic production increased by 7.3 kilograms, and the remaining came from additional imports. It means that per capita production increased by about 5 per cent during the second period compared to the first, but consumption increased more than that.

Table 5.1 : *Per capita availability of cereals in India, 1951/62*

(in Kilograms per year)

Year (April-March)	Per capita availability	Average	Of which from dome- stic production	Average
1951-52	140.3	148.0	127.1	141.7
1952-53	135.7		128.6	
1953-54	148.3		142.9	
1954-55	162.7	157.8	160.4	155.0
1955-56	152.9		149.5	
1956-57	152.1		146.1	
1957-58	158.1	152.7	151.4	145.3
1958-59	147.9		138.4	
1959-60	162.8		155.2	
1960-61	157.6	160.9	149.0	152.7
1961-62	162.3		153.9	
		156.8		149.0

This difference becomes more marked if we exclude the first three years of the decade when production was very low and hence imports quite high. While average per capita availability increased by 3 kilograms from 1954-56 to 1959-62, average per capita production was lower in the latter than in the former period. This was mainly because of the very high production in 1954-55. Indeed, per capita availability from production reached a high level in 1954-55 which has not since been attained. If, therefore, one excludes this extra-ordinary year and considers 1955-56 as the base year, then one finds that in six years (i. e., by 1961-62) per capita consumption had increased by more than 6 per cent. The higher rate of increase in consumption compared to production was made possible by imports, mainly under P. L. 480.

Increase in per capita income would be the major factor requiring increase in per capita consumption of cereals. Per capita income in India, at 1948-49 prices, increased by 10 per cent in the six years since 1955-56. Most empirical estimates of income elasticity of demand for foodgrains as a whole, put it at about 0.5 for the rural areas, and at about 0.25 for the urban areas. The income elasticity for the country as a whole, therefore, would come to around 0.4. If one chose somewhat higher estimates of income elasticity, say 0.6 for rural and 0.35 for urban consumers, the average for the country as a whole would come to around 0.5. This means that an increase of 10 per cent in real per capita income (i. e. income at constant prices) during the six years since 1955-56 would have required some 4 or 5 per cent increase in consumption of foodgrains. It was, however, noted earlier that per capita production of cereals had increased by only about 3 per cent during this period. Therefore, it is clear that increased imports were necessary to fill the gap. Imports under P. L. 480 served this purpose, and thereby prevented the pressure on prices of foodgrains that would have resulted from foodgrains production lagging behind increases in real income.

What in fact happened was that, per capita consumption increased by more than 6 per cent during these years, i. e., at a greater rate than indicated by the increase in per capita real income. Of course this assumes an unchanging pattern of income distribution over the period. Changes in this pattern in favour of the lower income groups (or rural consumers) would mean a greater rate of increase in demand for cereals. It is difficult for us to say how far such changes had taken place in India during the period under review. A larger rate of consumption than induced by the changes in per capita real income and in the pattern of income distribution can come about through a lowering of the relative prices of cereals. During these years in India there was a general inflationary pressure. Any extra consumption of cereals was the result of efforts to prevent price rise in cereals in general, while the other prices rose continuously.

This is also reflected in the year to year fluctuations in the per capita availability of cereals. Per capita availability from domestic production fluctuated quite sharply from year to year. One function of imports was to even out these

fluctuations and at the same time meet the additional demands arising out of increasing real incomes that could not be met from domestic production. This would mean releasing from stocks in years of deficit, and procuring in years of surplus, as visualized by the Foodgrains Enquiry Committee of 1957. In fact, it would be seen from Table 5.2 that the net issues from imports increased steadily since 1954-55, through good years and bad. Thus, while in 1956-57 the fall in domestic per capita production was made good by issue of imported grains, the increased production of cereals in 1957-58 did not see any decline in issues ( but a slight increase ). The production in 1958-59 was so much smaller that even all the available imports and stocks could not bring availability to the 1956-57 level. Both 1959-60 and 1961-62 saw significant increase in per capita production, but the issues continued undiminished. The task of evening out per capita availabilities all these years and providing for rising demand would have required varying additions to supply from imports, but the steadily high level of supplies from imports, was presumably the result of the effort to fight the general inflationary forces on the cereal front. This made the task of meeting the acute deficits in a year like 1958-59 doubly difficult, and prices of cereals rose very sharply during this year.

Table 5.2 : *Per capita net issue of all cereals*

<i>Year</i>	<i>Per capita net issue ( in Kgs. )</i>
1954—55	2.3
1955—56	3.4
1956—57	6.0
1957—58	6.7
1958—59	9.5
1959—60	7.6
1960—61	8.6
1961—62	8.4

The result of the efforts to meet increased demands arising out of real income changes, and those to prevent the general inflationary forces from affecting foodgrains prices, becomes complicated when it is remembered that the various cereals are not good substitutes in consumption in the country. It is well known that rice, wheat and millets are not good substitutes in consumption in the different parts of the country. The imports and stocks of cereals with the Government have consisted, however, mainly of wheat, and to a much smaller extent of rice. While no useful estimates are yet available, it is generally believed that the so-called superior cereals in India, namely rice and wheat have a higher income elasticity of demand than millets and other minor cereals. The rise in income would, therefore, make a greater demand on these superior cereals than others, and to that extent a larger stock of these would be helpful. It is only through a lowering of its relative price ( depending on the degree of substitutability ) that the stocks of wheat alone, could be used to meet the

general inflationary pressures on foodgrains as well as the increased demand for other cereals arising out of income changes. It is, therefore, necessary to examine the trends in consumption of individual cereals in the country during the years of P. L. 480 imports, and find out to what extent wheat has become a substitute in consumption for other cereals.

Rice is the most important cereal produced and consumed in India, accounting for half of the total production and some 48 per cent of the total consumption of all cereals. Wheat accounts for nearly 16 per cent of all cereal production and nearly 20 per cent of all cereal consumption. The remaining cereals, to be henceforth referred to as 'other cereals', which include millets and other minor cereals, form nearly one-third of the total consumption and a little larger proportion of the total production of all cereals in the country.

*Rice* : The aggregate consumption of rice in India increased from around 22.8 million tonnes in 1951 to 34.7 million tonnes in 1961, an increase of 52.3 per cent in 11 years. By the end of the First Five Year Plan (in 1955), India was consuming 27.7 million tonnes of rice. In the subsequent six years it increased by 25 per cent. ( Even if one takes the relatively better year 1956 as base, the increase in total consumption was 18 per cent in five years. ) This entire increase in consumption was due to increased domestic production of rice. Imported rice was not a particularly significant proportion of total rice consumption. During the days of post-War food controls and rationing, imported grain constituted at most 3 per cent of total rice availability; since 1957 this percentage was around 1.5. This was because, on the one hand rice production had increased during these years, and on the other, rice imports were very small. The small volume of import appears to have resulted in a more determined effort to regulate rice consumption and price in the country during these years. Thus while the imports were not plentiful there was evidence of effort to regulate consumption, by building up stocks from internal production, as will be noticed below. The very small imports resulted in a rather tight situation in which nature, so to say, helped inasmuch as there were no two consecutive years of rice crop failure during the years 1954-62. That any such adverse situation could have created great difficulties was indicated by the experience of the years 1962 and 1963. Rice production in 1962 did not record any increase, and there was a decline in 1963. Price of rice increased by as much as 25 per cent in one month in some areas in 1963. A sizeable buffer stock of rice built up mainly through imports could have helped in a situation like this.

Data on per capita availability and production of rice, presented in Table 5.3, reflect the above trends. It appears that as per capita production increased, dependence on imports declined. Compared to 1956, per capita rice availability increased by 4 Kg. or 5.4 per cent in the following 5 years, but per capita production during this period increased by about 4.7 Kg. or 6.5 per cent. The data presented in Table 5.4 show the net additions to consumption from imports during the years since 1955.

Table 5.3 : *Per capita availability of rice*

Year	Per capita availability		Of which from domestic production	
	Kg./Year	Average	Kg./Year	Average
1951	62.9	63.9	61.0	62.6
1952	62.9		61.6	
1953	65.9		65.1	
		68.1		67.0
1954	77.3	74.5	78.4	73.6
1955	71.6		68.7	
1956	74.6		72.7	
		72.2		70.8
1957	76.6	74.2	75.1	73.2
1958	65.4		64.5	
1959	76.4		76.6	
1960	73.8	76.3	73.0	77.7
1961	78.6		78.4	

Table 5.4 : *Per capita net issue of rice from imports*

Year	Per capita net issue of rice from Imports (Kg.)
1955	2.9
1956	1.9
1957	1.5
1958	0.9
1959	-0.2
1960	0.8
1961	1.2

There is no indication of a rising trend in these net additions from imports. In 1959, in fact, consumption was less than internal production; there was stock building not merely with the help of imports but also from domestic production. This was, however, not the case all along. In 1957 and 1961 though internal production per capita was quite high, there was addition to consumption from imports, mainly because the imports were rather large during these years. On the other hand, despite sharp fall in domestic production in 1958 net issues were small because adequate supplies from imports were not available. It is therefore evident that while the Government was not uniformly strict in the regulation of stocks, in general the absence of very large imports resulted in efforts at regulation consumption of rice within the available supplies.

On an average, rice consumption increased one per cent per capita during the years since 1956. This was more than the rate for all cereals indicated by the increase in per capita real income, — 0.6 per cent per annum. But it is possible

that the income elasticity of demand for rice is greater than for cereals as a whole, and increase in rice consumption was more in keeping with the rise in income.

*Wheat* : Total wheat consumption in India increased by more than 40 per cent during the 11 years since 1951-52. The First Five Year Plan period did not see significant increase in total consumption, because in the early years the very large imports of wheat were meant only to supplement low levels of production, and in the later two years as production registered significant increases, imports came down sharply. The really noteworthy increase in consumption of wheat took place in the six years beginning 1956-57, that is since the beginning of imports under P. L. 480. By 1961-62 total wheat available in India was 14.1 million tonnes compared to 9.3 million tonnes in 1955-56, nearly 50 per cent rise in a matter of six years. This very great increase was made possible mainly by increased imports, and to a lesser extent by increased domestic production. While the increased domestic production was absorbed by the growing population, imports became the real source of net addition to consumption. Imports provided more than 3 million tonnes to consumption in 1961-62 compared to about 3 lakh tonnes in 1955-56. Imported wheat constituted just about 2 per cent of total available wheat in 1955-56, while in 1961-62 it formed more than 22 per cent of the total.

The role of imported wheat in the total availability can be brought out more clearly by examining trends in per capita availability and production presented in Table 5.5.

It is seen that since 1955-56 per capita wheat production remained more or less unchanged, except for a sharp decline in 1958-59 and a significant increase, of about 5 per cent, in 1961-62. On the other hand, per capita availability steadily increased and was 33 per cent higher in 1961-62 than in 1955-56. Practically all of this increase came from imported wheat, chiefly P.L. 480 wheat.

Table 5.5 : *Per capita availability of wheat*

Year	Per capita availability		Of which from domestic production		
	Kg.	Average	Kg.	Average	
1951-52	27.9	24.5	24.4	18.9	20.3
1952-53	21.4			17.3	
1953-54	24.1			20.4	
1954-55	24.4			21.4	
1955-56	24.1	24.3	29.7	23.6	23.0
1956-57	26.5			22.5	
1957-58	29.0			23.6	
1958-59	27.9			19.4	
1959-60	31.2	27.8	29.7	23.7	24.1
1960-61	31.4			23.8	
1961-62	32.0			24.9	

It will be seen from Table 5.6 that, while per capita availability from domestic production remained more or less unchanged, increased imports of wheat under P. L. 480 were passed on to the public in increasing quantities.

Table 5.6 : *Per capita net issue of wheat from imports*

<i>Year</i>	<i>Per capita net issue of wheat from imports (Kg.)</i>
1955—56	0.5
1956—57	4.0
1957—58	5.4
1958—59	8.5
1959—60	7.5
1960—61	7.6
1961—62	7.1

The data show that issue of imported wheat led to a very high rate of increase in per capita consumption, around 5.5 per cent a year, on an average, since 1955-56. ( Even if one excludes the sudden sharp increase in issues from 1955-56 to 1956-57, the average rate of increase in the subsequent years comes to about 4 per cent ). This was many times more than the increase in cereal demand indicated by the rise in per capita real income. In fact, wheat consumption increased 2.5 times as fast as per capita real income. It is probable that as in the case of rice, wheat has a higher income elasticity of demand than for other cereals. But it is difficult to believe that this would be as great as 2.5. If it were the purpose of issue to help even out fluctuations in production of wheat in particular years, and to provide for any additional requirements arising out of real income increases, a much smaller amount would have sufficed. For example, in 1957-58 per capita production was at the high level of 1955-56, but there was no downward adjustment in issue, as a result of which per capita availability increased by nearly 20 per cent above the 1955-56 level and by 10 per cent above the 1956-57 level. Similarly despite a 5 per cent increase in per capita production in 1961-62, the level of issue remained unaltered. As a result of such large issues wheat consumption came to form 20 per cent of total cereal consumption in the country, while its production was only 16 per cent of total domestic cereal production.

This high rate of increase in consumption of wheat would be possible through substitution of wheat for other cereals, extension in consumption of wheat due to low relative price of wheat, and through possible changes in the pattern of income distribution in favour of income groups and classes with higher marginal propensity to consume wheat. Before we turn to an examination of the manner of wheat consumption during these years, it is necessary to look into the trends in consumption of other cereals in the country during this period.

*Other Cereals* : The 'other cereals' group is rather heterogenous and comprises jowar, bajra, maize, barley, ragi and small millets. They are consumed in differ-

ent parts of the country and are generally considered 'inferior' from the point of view of taste and preference. Estimates of per capita availability of other cereals in India are presented in Table 5.7.

Table 5.7 : *Per capita availability of other cereals in India*

( in Kilograms )	
Year ( April-March )	Per capita availability
1951—52	49.5
1952—53	51.4
1953—54	58.3
1954—55	61.0
1955—56	57.2
1956—57	51.0
1957—58	52.6
1958—59	54.6
1959—60	55.1
1960—61	52.4
1961—62	51.8

*Jowar* is one of the important millets, and is a major cereal in Western and Southern India, particularly Maharashtra, parts of Mysore and Andhra. It is also grown in the wheat growing regions of Punjab, U. P., and Madhya Pradesh in relatively small quantities, but used often as cattle-feed and fodder.

*Bajra*, another millet, is a minor cereal in not only *jowar* growing regions, but also in many wheat growing regions. It is an important crop in Rajasthan, Madhya Pradesh, Punjab, U. P., and Gujarat.

Small millets cover a wide variety, and are inferior cereals mainly in some wheat eating areas.

Barley is grown chiefly in wheat regions, and is an inferior substitute for wheat.

*Ragi* is grown as an inferior cereal in rice growing areas of the country, and is consumed mainly by rice eaters in South India.

Maize is a significant food crop in Punjab, and parts of U. P. and Rajasthan, but is second to wheat. It is also an important feed grain (and fodder crop). In recent years the industrial use of maize has also increased.

During the 11 years since 1951—52, importance of the other cereals in the consumption of the Indian people declined, while that of wheat and rice, and wheat in particular, increased. The consumption of other cereals reached a peak in 1953—54 when it accounted for more than 39 per cent of the total cereal consumption in the country. By 1961—62 this had declined to 32 per cent. The same can be said of its place in cereal production in the country. While 'other cereals' accounted for 40 per cent of all cereal production in 1953—54, it was 33.5 per cent in 1961—62.

India was importing significant amounts of millets in the post-War period till 1953. Since 1954 import of millets ceased; it was resumed to a very small

extent in 1959-60, under P. L. 480 agreements and amounted to 0.1 per cent of India's consumption of 'other cereals' in the three years since 1959-60. Moreover, these imports were used mainly as foodgrains and for industrial purposes. Practically all the consumption of other cereals in India during these years was from domestically produced grains.

Aggregate consumption of other cereals in India reached a peak in 1954-55. Since then it has fluctuated at a lower level. The relative stagnancy in total production is reflected more sharply in its per capita availability, which declined from the peak of 61 kgs. in 1954-55 to less than 52 kgs. in 1961-62, a decline of 15 per cent.

Not all the cereals in this group, however, showed this tendency. Three of them, *Jowar*, *Maize*, and *Ragi*, did not show any change in per capita production. Three others, *Bajra*, *Barley*, and small millets, registered a continuous decline. *Jowar* production fluctuated around 20 kgs. per capita since 1954-55; *Ragi* around 4.5 kgs., and *Maize* around 9.4 kgs. *Bajra*, on the other hand, declined from 10.2 kgs. to 7.7 kgs., i. e., about 25 per cent; small millets from 6.5 kgs. to 4.4 kgs., about 33 per cent; and *Barley* from 7.8 kgs. to 6.5 kgs., around 17 per cent.

During the years since 1955-56 consumption of other cereals had remained more or less unchanged, and in case of some there were signs of decline. It is quite possible that these cereals had a lower income elasticity of demand than wheat or rice. This would be more likely in urban than in rural areas. Beyond a certain income level, the income elasticity for such cereals might indeed be negative. While no detailed empirical estimates of such elasticities are available, it is fair to assume the above to be correct. To the extent this is true, wheat ( and possibly rice also ) took the place of these cereals, and the increased wheat issues were used, partly for the purpose. But it is necessary to have a more detailed look at the pattern of changes in consumption of different cereals in various regions of the country, and the use to which the increased wheat supplies were put during these years, in order to find out the extent to which wheat substituted other cereals.

### *Regional variation*

(a) Inter-State : If estimation of consumption of individual cereals for India as a whole is a difficult task, it is more so for the States or regions. In the first place, cereal production data for States are not as reliable as the all-India index of production. Moreover, adequate and reliable data on inter-State movements of grains were not available for this period. While data relating to stocks with the government could be obtained, similar data relating to private trade were non-existent. Within these severe limitations effort was made to estimate consumption of cereals in various States for the years since 1953-54. The procedures and detailed Tables for this are presented in the Appendix to this Chapter. While the individual year to year changes in the estimates may not in every case be very reliable, it is believed that relative trends in

consumption of different cereals will be fairly indicative of the actual state of affairs.

The data show that per capita availability of cereals in almost all States increased since 1953-54. Only Assam and West Bengal stand out as exceptions.<sup>1</sup> In Assam aggregate production was reportedly unchanged, so to say, since 1953-54. There was no evidence of greater increases in imports from other States, nor were the issues very much higher. Therefore, per capita consumption declined very steadily. Such a trend would have been reflected in serious price rise ( unless one postulates a steadily declining per capita income in the State ). The price of rice, its chief cereal, did not, however, reflect any such pressures. For making any further comments about Assam, it is therefore, necessary to give more careful attention to the Assam data than is possible for us. In regard to West Bengal total cereal production reached a peak in 1954-55, after which production remained very low due largely to seasonal conditions, and recovered only in 1961-62. While imports from other States, on government and private account as well as imports from abroad were used to keep up the level of consumption, it remained rather low and did not register any increasing trend over the years.

The composition of cereal consumption had undergone change in almost all States during these years. The importance of cereals other than wheat and rice declined everywhere. In States other than West Bengal, Bihar and Madhya Pradesh, both wheat and rice gained in importance. In these three States only wheat gained, while rice lost its position. In all the wheat growing and consuming States, namely, Punjab, U. P., Rajasthan and Madhya Pradesh, wheat had become increasingly more important in consumption and other cereals declined. In the major millet-eating States of Maharashtra and Gujarat, wheat constituted nearly 12 per cent of all cereal consumption in 1955-56. It had increased to nearly 20 per cent by 1961-62. In the rice-eating four States of South India, the chief increase was in rice. While wheat registered almost continuous rise ( from 0.8 per cent in 1954-55 to 2.8 per cent in 1961-62 ), it was still a very minor cereal in consumption. On the other hand, in West Bengal and Bihar, important rice consuming areas in eastern India, proportion of wheat in total cereal consumption increased from around 8 to 12 per cent in the five years since 1956-57, and the share of rice correspondingly declined.

The decline in the share of other cereals did not necessarily mean a decline in their per capita availability. In fact such an absolute decline appears to have taken place only in the two major wheat-growing States, U. P. and Punjab. Data from a survey of consumption of cereals available for Uttar Pradesh for a period of three years only, 1959-60 to 1961-62, presented in Table 5.8 indicate such a change. In States like Rajasthan or Madhya Pradesh, and Maharashtra and Gujarat, where other cereals are even more important than wheat

<sup>1</sup>The estimates for Orissa are not taken into consideration since there was a sudden increase in production in 1958-59, which was statistical rather than real. This makes the data for the earlier years completely non-comparable.

Table 5.8 : *Per capita consumption of cereals in U. P.*

Year	Per capita consumption in U. P. (Kg.)			
	Wheat	Rice	Others	Total
1959—60	46.2	44.8	106.2	197.2
1960—61	50.8	48.5	103.6	202.9
1961—62	58.3	50.5	97.9	206.7

Source : These data are based on the survey of consumption expenditure in U. P. conducted by the Bureau of Economics and Statistics of the State and reported in their Quarterly Bulletins from time to time. The survey data were in terms of rupees. They were converted to quantities by using appropriate price data.

in people's consumption, per capita availability of other cereals had registered a slight increase, if at all, since 1955-56. In all these States per capita availability of wheat had risen significantly, ( more than 20 per cent in all of them, and more than 50 per cent in Gujarat and Maharashtra ) since 1955-56.

It is, therefore, quite clear that in those regions where wheat is the main staple of the people, increased wheat availability was accompanied by a positive decline in the consumption of millets and minor cereals. In major millet areas, on the other hand, per capita consumption of such cereals did not decline, but the increase in cereals consumption, was mainly in the form of wheat.

In the case of major rice consuming areas, wheat consumption increased, but in most of them the extent of wheat consumption was still too small to think in terms of substitution of it for rice, in any significant way. The case of West Bengal is rather peculiar. In this State per capita rice availability was very low for most of the years since 1954-55. Increasing per capita wheat consumption was, therefore, responsible in preventing a decline in total cereal consumption. In West Bengal, a rice-eating State, the per capita wheat consumption had normally been significant, mainly because of its metropolitan industrial areas, populated with large number of immigrants from wheat eating regions of the country. Rural wheat consumption was about as low as in any other rice eating State. In urban areas low per capita rice availability in recent years led to increased supplementing by wheat. How much of it was voluntary substitution and how much involuntary, it is difficult to say. For, during the years since 1956, the issue of rice from fair price shops in West Bengal had often been tied to the issue of a matching quantum of wheat.

The substantial increase in per capita wheat consumption in all States was the result of the continuous release of P. L. 480 imports. The arrangements made by the government to facilitate the release and distribution of P. L. 480 grains were noted in the previous chapter. P. L. 480 wheat was to meet the requirements of deficit regions. The wheat producing ( and surplus ) regions were to meet their requirements from local production as far as possible. In view of the zonal movement restrictions, one would have expected government

to procure the surplus wheat in any State, or permit private trade to export it to other States. In fact not much procurement was made. The wheat growing States, including those that normally exported wheat to other States, also began consuming P. L. 480 wheat over and above their local production. Uttar Pradesh had remained a net importer of wheat ( which means P. L. 480 wheat ) since 1956-57. The Punjab region ( including Punjab, Himachal Pradesh and Delhi ) was also a net importer from 1956-57. Even Punjab which was normally a major wheat exporting area, turned net importer of P. L. 480 wheat in the three years from 1958-59. The only wheat growing State that remained a net exporter during these years was Madhya Pradesh. Domestic production of course formed the main source of wheat supply for these States, — more than 90 per cent of their total availability. P. L. 480 wheat, however, formed anywhere upto 10 per cent of their wheat consumption.

The non-wheat producing States came to depend almost exclusively on P. L. 480 supplies, while formerly their requirements were being met by supplies from surplus States. In the rice eating States where wheat consumption was still rather small, all the supplies came from P. L. 480. In States like Maharashtra, Gujarat, West Bengal and Bihar, which had traditionally imported the bulk of their requirements from other States, P. L. 480 wheat became the most important source.

Thus P. L. 480 supplies resulted in increased per capita consumption of wheat in all States, in some as high as 50 per cent in seven years. In view of this it is necessary to see which classes benefitted more from this increase in consumption, and in what form the increased wheat was consumed. It has been noted earlier that P. L. 480 wheat was released through fair price shops directly to retail consumers, as well as to roller flour mills to be resold as processed wheat products. This might also suggest something about the pattern of wheat consumption in various States.

( b ) Rural/urban : Not much data are available relating to rural-urban trends in consumption of cereals in India. The National Sample Surveys provide estimates of per capita money expenditures on various cereals, for rural and urban areas separately for its several rounds. However, since these data were not available for the years after 1959, they could not be used for the purpose.

Similar data were available for U. P., from a different survey, referred to earlier. The rural-urban breakdown of the total cereal consumption is presented in Table 5.9.

It is seen that total cereal consumption in U. P. increased much more in urban areas than in rural. The biggest increase was in wheat consumption. Urban wheat consumption increased far more than rural, and similarly there was a much greater decline in urban consumption of other cereals than in rural consumption. In rural areas while increased wheat and rice consumption compensated for the decline in consumption of other cereals, in urban areas increase in wheat consumption was much more than the decline in consumption

Table 5.9 : *Per capita urban and rural consumption of certain cereals in U. P.*  
( in Kilograms )

Year	Per Capita Consumption			
	Wheat	Rice	Others	Total
		<i>Rural</i>		
1958—59	42.0	47.7	120.0	209.7
1959—60	40.3	47.1	117.0	204.0
1960—61	43.2	51.2	114.2	208.6
1961—62	49.4	52.9	108.5	210.8
		<i>Urban</i>		
1959—60	86.0	29.2	33.2	148.5
1960—61	101.9	30.9	31.4	164.2
1961—62	117.9	34.6	26.8	179.3

Source : Same as for Table. 5.8

of other cereals. It suggests that the main increase in per capita wheat consumption in a State like U. P. has been in urban areas, and only a small part of it was compensating for declining consumption of other cereals. The bulk of the additional wheat consumption was a net addition to total cereal consumption in urban areas.

Similar data, relating to urban-rural consumption trends were, however, not available for any other State of India. The trends noted in case of U. P. above, would, however, be more or less true of wheat growing States like Punjab and Madhya Pradesh.

As regards the other regions, while increased cereal consumption was very likely shared by both rural and urban consumers, the same may not be equally true of wheat. It may be fair to presume that in the rice consuming regions like Orissa, Assam, West Bengal, Bihar and the four Southern States, the bulk of the increased wheat consumption was in urban areas. In millet consuming areas of Maharashtra, Gujarat and Mysore the same might also be the case.

#### *Sale through fair price shops*

From the limited information presented above, it would appear the increased wheat supplies under P. L. 480 resulted in much greater wheat consumption in urban areas of the country. In this connection it would be interesting to know the urban-rural breakdown of the total distribution of P. L. 480 wheat. This would also indicate to what extent any increase in rural wheat consumption was through direct sale of P. L. 480 wheat in rural areas, and to what extent through greater production and lower price of locally produced wheat. For this purpose also it is necessary to make a distinction between wheat sold to roller flour mills, and that sold through fair price shops. While the mill products were sold to consumers in different areas in various forms over

which the State exercised no control, the fair price shops sold whole wheat directly to consumers in specified areas.

Unfortunately no information was available as to how much of wheat was sold by Government through fair price shops in rural areas, and how much in urban areas of the various States. Even data about the number of fair price shops separately in rural and urban areas were not available. It is not possible to interpret the increase in the total number of fair price shops in a State as an indication of extension of imported wheat sales into rural areas. For, in recent years these licensed fair price shops have been made the agencies for selling a variety of goods that sometime or other came in for regulated distribution, like, rice, occasionally millets, and more recently sugar, etc. Moreover, some State Governments as a matter of policy decided to expand the coverage and increase the number of fair price shops. This increase in number and coverage did not necessarily mean increase in issues. While the number of fair price shops in the country did not change significantly from 1958-59 to 1961-62, (see Table 5.10) the issues of wheat through fair price shops declined. (See Table 5.11)

Table 5.10 : *Number of Fair price shops in different States*

	<i>Number functioning at the end of the year</i>						<i>Thousand population in 1961 served by one shop</i>
	1957	1958	1959	1960	1961	1962	
A. P.	180	—	111	1236	882	2255	40.7
Assam	1285	687	1453	556	891	587	13.3
Bihar	9653	15194	9051	8332	9247	9124	5.0
Gujarat				3913	3483	3240	5.9
Maharashtra	5416	5445	9749	8201	6545	8029	6.0
Kerala	6173	6037	6063	6136	6262	6367	2.6
M. P.	309	961	202	104	52	390	62.2
Madras	788	469	2264	1124	1401	2048	24.0
Mysore	725	316	727	1562	1497	1402	15.7
Orissa	900	364	395	530	405	693	43.3
Punjab	83	109	4159	1144	197	589	103.0
Rajasthan	99	623	382	361	183	151	110.0
U. P.	2483	4062	4299	5291	5043	3601	14.6
Delhi	492	—	651	621	609	634	4.3
W. Bengal	8913	11169	12303	11382	10708	11074	3.2
All India	37591	45631	52101	51340	48248	50922	9.1

*Source* : Bulletin on Food Statistics, 1962.

Some evidence of the rural-urban division of the wheat issued through fair price shops was available from the data relating to such issues from Central

and State Government stores respectively. In most States the Central Government supplied the fair price shops in the major cities and towns directly from its own stocks (on receiving indents from the local authorities). The State Governments issued from their stocks (built up almost entirely with supplies from Central Government) to the fair price shops in the remaining towns as well as in rural areas. Table 5.11 gives details of the wheat sold through fair price shops from Central and State Government stores.

It indicates that in all the rice eating states the issues through fair price shops were mainly in urban areas. The five States with large issue of wheat through fair price shops, were West Bengal, Maharashtra and Gujarat, U. P., and Bihar. In U. P. the wheat issued in seven big cities from Central stocks amounted to between one-third to two-thirds of the total issues in all years except 1957-58. The issue by the State Government was in 44 smaller towns and rural areas. If it is assumed that at least half of this issue was in towns, then it appears that at least two-thirds of all wheat issued through fair price shops in U. P. was in urban areas. Moreover, in 1959-60 the State Government discontinued the issue of wheat in rural areas,<sup>2</sup> and also closed down fair price shops whose sales had declined by 25 per cent or more. Since that time, wheat issue through fair price shops was mainly in urban areas.

In West Bengal, Central issues were at least 50 per cent of the total issue through fair price shops. Wheat issue in smaller towns, mining areas, etc., of the State was the responsibility of the State Government. If we assume that half of the State issue was in rural areas then, it turns out that rural issue of wheat was at most 25 per cent of the total issue, during the year of peak issue, i. e., 1958-60. In later years decline in State issue must have very considerably reduced the importance of rural areas in the picture.

The data for Bihar are difficult to interpret since here the State Government's coverage was much wider. The large industrial and mining areas in the State would lead one to believe that rural wheat issues in Bihar would not be any more than that estimated for say U. P.

In case of Maharashtra and Gujarat, the issue from State stocks became very large since 1959-60. This was to a large extent due to extension of the fair price shop scheme to rural areas of the State. Table 5.12 gives the total number of fair price shops in the rural and urban areas of the two States.<sup>3</sup>

It shows that in these two States, the number of fair price shops increased greatly since 1959. In rural Maharashtra there were four times as many such shops in 1962 as in 1958, and in urban areas twice as many. The issue of imported wheat increased very much in the two years 1959-60 and

<sup>2</sup> As far as we could ascertain, this was the position till 1961-62. Only the mill districts were an exception.

<sup>3</sup> These data were specially collected by mailing a questionnaire to the Collector of each district in the two States. In case of Maharashtra the data are for 18 out of 25 districts (excluding Greater Bombay) while for Gujarat they cover all the 17 districts of the State. Maharashtra data are, therefore, incomplete.

Table 5.11 : Issue of wheat through fair price shops from Central and State Government stocks

( in '000 metric tonnes )

		1956—57	1957—58	1958—59	1959—60	1960—61	1961—62
<i>U. P.</i>	State	197	205	337	132	81	62
	Central	103	36	176	204	126	40
	Total	300	242	513	336	207	102
<i>Bihar</i>	State	17	319	608	177	291	226
	Central	35	91	125	116	129	119
	Total	52	410	732	293	420	345
<i>Maharashtra and Gujarat</i>	State	..	42	171	493	577	204
	Central	265	191	120	138	123	83
	Total	265	233	291	631	700	287
<i>West Bengal</i>	State	..	143	234	272	190	79
	Central	338	222	230	258	245	224
	Total	338	365	464	530	435	303
<i>*Andhra Pradesh</i>	Total	16	37	28	34	44	33
	Total	14	37	14	31	32	34
<i>*Madras</i>	Total	8	26	19	34	44	48
<i>*Mysore</i>	Total	3	14	17	18	23	24
<i>*Orissa</i>	Total	..	32	63	63	44	37
<i>*Assam</i>	Total	..	32	63	63	44	37
	Total	..	32	63	63	44	37
<i>*M. P.</i>	State	38	19	64	8	3	..
	Total	64	30	114	10	12	..
<i>Rajasthan</i>	State	9	12	42	35	11	26
	Total	17	20	91	75	11	32
<i>Punjab</i>	State	13	4	70	140	148	103
	Total	41	13	70	141	148	105
<i>All-India</i>	State	288	791	1587	1295	1348	727
	Central	1008	806	993	1014	865	717
	Total	1296	1597	2580	2309	2213	1444

\*In these States all issue of wheat to fair price shops was from Central Government stocks.

Source : Directorate of Economics and Statistics, Ministry of Food and Agriculture.

1960-61. This was mainly because there was a fall in *jowar* production due to adverse seasonal conditions and price of *jowar* went up. The government tried to provide imported wheat in the rural areas, where *jowar* is the main cereal. Consumers purchased imported wheat when *jowar* price was higher than the price of imported wheat. It is difficult to say if, besides this,

Table 5.12 : Number of Fair Price Shops functioning in Maharashtra and Gujarat at the end of each year since 1957.

<i>At the end of</i>	1957	1958	1959	1960	1961	October 1962
<i>Maharashtra State</i>						
District headquarters	23.0	27.0	23.2	22.0	21.7	17.7
Taluka places	20.5	21.6	19.4	17.6	15.6	15.6
Rest of the districts	56.5	51.4	57.4	60.4	62.7	66.7
Total in the State	1398	1584	3344	4471	4396	4809
<i>Gujarat State</i>						
District headquarters	31.5	31.9	24.6	21.1	19.3	20.6
Taluka places	25.5	23.1	21.6	18.4	19.7	22.1
Rest of the districts	43.0	44.9	53.8	60.4	61.0	57.2
Total in the State	1308	1699	3052	3667	3381	2958

*Note* : State totals are in actual numbers. The others are percentages to the total.

there was a general tendency in rural areas of Maharashtra to consume more wheat instead of *jowar* and *bajra*, as a result of the extension of the fair price shop scheme. Some evidence gathered in course of village enquiries in Maharashtra by the Gokhale Institute of Politics and Economics, suggests that following the opening of fair price shops in rural areas, the poorer sections of the village population had begun purchasing imported wheat in lean months, when *jowar* prices usually rise. To the extent this happened, it would mean substitution of imported wheat for *jowar* in the consumption of villagers in the State. The effect, however, would be only marginal, for, as we shall note later, the imported wheat is considered an 'inferior' cereal by the consumer. Moreover, a study of consumption in some parts of rural Maharashtra, by P. N. Mathur,<sup>4</sup> suggests that a rise in income of cultivators resulted in an increase in consumption of both *jowar* and wheat. This means that imported wheat supply through fair price shops was not likely to have seriously affected *jowar* consumption in rural areas of Maharashtra. Thus, by and large, the consumption of imported wheat through fair price shops in these two States was also an urban phenomenon.

From the above review it would appear that during the years 1957 to 1962 imported wheat sales through fair price shops have been mainly in urban areas. The sales in rural areas were significant only in years of sharp rise in prices. There was evidence to believe that wheat consumption increased somewhat in the rural areas of the wheat growing States. But this was mainly indigenous wheat. Its consumption increased because local production increased,

<sup>4</sup>"Stability in consumer behaviour", unpublished paper, Gokhale Institute of Politics and Economics, Poona 1963.

and price declined thanks to release of large quantities of imported wheat and ban on movement of grains. In non-producing areas wheat consumption increased substantially, but it was overwhelmingly urban. Rural consumption of wheat in these regions had been small, and if any increase took place during this period, it was not likely to have been significant.

This evidence of increasing urban consumption of wheat is further strengthened when we add the sale of wheat to roller flour mills, to the above. These sales increased phenomenally over the years under review, while sales through fair price shops declined since 1959. Before we go on to a detailed analysis of trends in flour mill products, it is necessary to examine the factors influencing consumption of wheat issued through fair price shops, and the classes in the population that have purchased this wheat.

The extent of purchase of imported wheat through fair price shops, would, in the first instance, depend upon the number and location of such shops. To start with, the government licensed these shops in the cities. Later as prices rose, their number was increased and the scheme was extended to small towns and rural areas. Moreover, since 1959-60, as noted earlier, some State Governments made it a policy to license fair price shops all over the State, whether there was offtake of cereals or not, just to have the mechanism in existence so that any difficulties arising out of sudden price rise could be met promptly. Given the number of shops, therefore, any fluctuations in offtake of grains from such shops would depend on other factors.

It is necessary to recall here the fact that ever since 1956 the government had offered to sell imported wheat to consumers at a fixed price, that remained unchanged all these years. There was never a policy of issuing so much and no more at an aggregate level. As much as was demanded through the fair price shops was to be supplied, subject to the overall constraint of the availability of stocks. This constraint was relevant in the years before 1959-60, particularly in 1958-59, when P. L. 480 imports were exhausted early, and stocks declined because of large offtake in early months, and later the offtakes had to decline because there was not enough stock to meet the growing demand. But since 1959-60 even the stocks became largely irrelevant since they were more than double the issues in any month.

The wholesale price of imported wheat was Rs. 14 per maund (retail price was higher by about 50 P. to Re. 1 a maund). During all these years this price had been quite below the ruling market price of indigenous wheat. In the city of Bombay, for example, the market price of indigenous wheat was around 50 per cent higher than the issue price of imported wheat, during the years since 1958-59 (for which open market price data were available). Normally one would expect a run on the fair price shops in such circumstances, and quick exhaustion of government stocks. Nothing of the sort, however, occurred. Indeed, despite the fact that the open market price of wheat was higher than the issue price of imported wheat since 1959, the offtake from fair price shops declined continuously till 1962. This is clear indication of the

consumer preference for indigenous wheat compared to imported P. L. 480 wheat. Imported wheat issued through fair price shops was only an 'inferior' substitute to local wheat.

That the imported wheat issued through fair price shops is 'inferior' in consumer preference is also indicated by the fact that its customers belonged mainly to the low income groups. This may be illustrated in the case of Bombay city for which some relevant data were available. The number of fair price shop card holders in different income groups, and the percentage of families in Bombay in similar income groups are given in Table 5.13.

From the above data it turns out that households with small incomes, particularly below Rs. 100 per month, were proportionately larger amongst the card holders. We must add to this the possibility that not all card holders went in for fair priced wheat, but often held cards only for fair priced rice. Many card holders particularly in the middle and upper income groups probably belonged to this category. Fair priced wheat was bought mainly by the low income groups.

Of course where no indigenous wheat was available, because of absence of local production and ban on imports from other States, this preference ceased to be material. Besides, in a number of States, on account of shortage of rice,

Table 5.13 : *Number of fair price card holders and population in different income groups in greater Bombay*

	Monthly income of households				Total (Number)
	Upto Rs. 100	Rs. 101- Rs. 250	Rs. 251- Rs. 500	Rs. 500 and above	
	— percentages —				
(a) Card holders on					
(i) 31 December, 1961	45.2	39.9	10.4	4.5	5,83,701
(ii) 20 October, 1962	54.7	32.3	8.9	4.1	5,59,131
(b) Proportion of households in Greater Bombay with income	19.1	49.6	20.2	9.6	13,369

*Source* : The data relating to the card holders were obtained from the Controller of Foodgrains Distribution, Government of Maharashtra. The data relating to the city population were taken from *Work, Wages and Well-Being in an Indian Metropolis — Economic Survey of Bombay City*, by D. T. Lakdawala, *et al*, University of Bombay, Bombay, 1963, Table V-11 p. 278. These figures are based on a 3 per cent sample drawn from the list of households, from the area of 90.8 sq. miles covered by Greater Bombay as in 1954. The jurisdiction of the metropolis was subsequently extended to nearly 170 sq. miles by 1960's. The sample appears somewhat defective, inasmuch as it was originally a sample of tenements. In case of multi-household tenements only one household was chosen for analysis. *Ibid* p. 5.

card holders were sold fair priced rice only on condition that they bought a minimum quantum of fair priced wheat.<sup>5</sup>

A statistical analysis was made to test some of the above propositions on an all-India basis. The quarterly offtake of wheat from fair price shops was related to : ( i ) the open market price of wheat during the quarter, ( ii ) the offtake of rice through fair price shops, ( iii ) stock of wheat with the government at the beginning of the quarter plus imports during the quarter, and ( iv ) quarterly national income. The details of the various models and the results of the regression analysis are presented in the Appendix to this chapter. It is enough to mention here that each of these factors turned out to be significant, and taken together explained a large part of the variation in wheat issue through fair price shops. While the first three variables were positively related to wheat issues, the last one, income, had a negative coefficient.

#### *Wheat supplies to roller flour mills*

Unlike the offtake of wheat from fair price shops which declined after 1958-59, the purchase of imported wheat by the roller flour mills increased continuously over the years. The government had been selling wheat at fixed price ( Rs. 14 per maund ) to licensed roller flour mills since 1957 and, indeed, as was noted in the earlier chapter, had made such purchases obligatory till 1961. The sales to roller flour mills gradually came to occupy a very important position in the programme of marketing of imported wheat by the Government. From data presented in Table 5.14 it appears that during the period 1956-57 to 1961-62, sale of wheat to roller flour mills as proportion of the total sale of imported wheat by the government, increased from 15 to 52 per cent.

This manifold increase in the purchase of imported wheat by the roller flour mills, however, does not provide a complete picture of the total wheat purchases by these mills over the years. Whereas, prior to 1957, the flour mills were purchasing their requirements in the open market, since 1958-59 most of them<sup>6</sup> were required by law to buy their requirements from government stocks. Though this legal compulsion was removed in 1961, it would appear that most of the mills have preferred to buy imported wheat, which was cheaper than domestic wheat. Unfortunately, no complete data about total wheat purchase by roller flour mills in the country were available. The Census of Manufacturing Industry provides such data for only large-sized establishments and the data were available till 1959. In the Table 5.15 we present the data from both sources for a continuous picture.

It appears from these data that wheat used by roller flour mills had more than doubled in the six years following 1956. Comparing the above figures

<sup>5</sup> It was not possible for us to obtain the details of such regulations in various States, though they appear to have been enforced in some deficit rice areas, like West Bengal, the West Coast of Maharashtra, etc.

<sup>6</sup> The Punjab mills were free from such obligation most of the time.

Table 5.14 : Issue of wheat through fair price shops and roller flour mills

(in thousand tonnes)

Year (April-March)	Issue of wheat			Column 2 as per cent of Column 4
	To roller flour mills	Through fair price shops	Total	
1	2	3	4	5
1956—57	233.4	1296.2	1529.6	15.4
1957—58	552.1	1596.7	2148.8	25.7
1958—59	837.5	2580.1	3453.6	25.4
1959—60	1177.0	2308.8	3485.8	33.8
1960—61	1468.8	2213.0	3681.8	40.0
1961—62	1571.1	1444.2	3015.3	52.0

Source : Directorate of Economics and Statistics, Ministry of Food and Agriculture, New Delhi.

Table 5.15 : Wheat supplies to roller flour mills

Year (January-December)	Wheat consumed by roller flour mills (a)		Wheat sold by Government to roller flour mills (b)	
	Number of mills (c)	Quantity ( '000 tonnes )	Registered mills	Quantity ( '000 tonnes )
1952	73 (79)	325.3	..	..
1956	72 (79)	816.8	N. A.	23.8
1957	78 (86)	902.1	N. A.	620.5
1958	82 (96)	911.4	111	682.7
1959	52	984.8	121	1189.9
1960	N. A.	N. A.	127	1380.2
1961	N. A.	N. A.	129	1475.3
1962	N. A.	N. A.	137	1726.4

N. A. Not available.

- (a) Data upto 1958 from the Census of Manufactures and for 1959 from the Annual Survey of Industries.
- (b) Data supplied by the Directorate of Economics and Statistics, Ministry of Food and Agriculture.
- (c) Figures in brackets refer to total number of mills, and without brackets to number of mills reporting.

with the total availability of wheat in India, it also turns out that while intake of wheat by roller flour mills in 1952 amounted to 5 per cent of total availability of wheat in that year, it was 10 per cent in 1956 and 15 per cent in 1962.

Regionwise, in each of the big wheat milling States, *i. e.*, West Bengal, Maharashtra and Gujarat, Uttar Pradesh and the Punjab, the increase in mill intake of wheat was quite large, though it was more in U. P. and Maharashtra-Gujarat than in the other two States. The non-wheat eating States, of course registered a much greater increase, partly because they started from very low levels of flour production. In the wheat growing States 10 to 12 per cent of the wheat available to consumers was in the form of wheat flour or other wheat products; in the other States this was more than half. (See Table A. 5.11 in the Appendix to this chapter )

### *Consumption of mill products*

All this goes to show that in recent years there has been a distinct change in the form in which wheat has been purchased by the consumers. The increased wheat purchase has to a greater extent been in the form of wheat products rather than whole wheat. This change suggests that possibly (i) there has been a gradual shift in consumer preference from whole wheat to wheat flour or *atta*, and (ii) consumption of wheat products like baked bread, biscuits, etc., as well as *suji* (cream of wheat) has increased.

Unfortunately, it has not been possible for us to obtain useful data on any of these aspects. In the first place no data were available to show the division of flour mill products among *atta*, *maida*, and *suji*. *Atta* is wheat flour with a high bran content, used for preparing *chappatty*, *poori*, etc., which are the forms in which wheat is consumed in India at the principal meal time. *Maida* is refined wheat flour, used for making baked breads, biscuits, and a whole range of cakes, pastries and sweets. *Suji*, or cream of wheat is used for preparing a variety of snacks and sweets. Naturally, there are many types of buyers of mill products, the retail household consumer, the hotels and restaurants, bakers, biscuit manufacturers and confectioners. The households and hotels and restaurants generally go in for *atta* and *suji*, while *maida* is generally bought by the others. Even if it were possible to get a breakdown of the flour mill products, by itself, it cannot say enough about the trend in consumption of mill products, since no data are available about the types of customers for the different products.

Indeed, if, as was made out earlier, there is a general reluctance on the part of the retail buyer to purchase imported wheat from fair price shops, there will be a similar reluctance to buy milled *atta* made of imported whole wheat. However, it is possible that hotels, restaurants and such other eating places purchase wheat flour, for catering to their customers in normal meals as well as in the form of snacks, in view of their bulk requirements and the relatively lower price of wheat flour. In rice eating areas where wheat eating is not common, imported wheat and wheat flour might serve the householder's needs as well, since he has no developed tastes and preference for indigenous wheat. For preparation of various snacks involving *atta*, the imported wheat could

as well be used. Hotels and restaurants, and households in non-wheat eating regions, use wheat flour for such purposes.

*Maida*, on the other hand, is used for baking bread and preparation of cakes and pastries of various sorts. Unfortunately again, no data on the extent of bread production were available, not even relating to the number of bakeries. However, the large growth of small and medium bakeries in big and small towns in India during the last few years, is a matter of common observation, and bread consumption has increased greatly in urban areas. It would, all the same, be difficult to say to what extent, if any, baked bread replaced "chappatties" in the main meals of the people. Possibly in big cities some people have begun using bread as a part of the incidentals of urbanization. It also may be that people eating occasionally in restaurants prefer baked bread to chappatties, for a variety of considerations. While it is difficult to guess the extent of demand for baked bread for such reasons, it is far more probable that baked bread has come to acquire an increasing place in the breakfast and tea tables of households in urban areas.

The increase in biscuit and confectionary consumption has also been quite rapid. But they very likely account for only a small part of the flour mills' total production. While data about small scale manufacture of biscuits were not available, the large biscuit manufacturers appear to use about 3.5 per cent of the total product of the flour mills<sup>7</sup>.

*Suji*, or cream of wheat is used mainly by households and hotels and restaurants. Its consumption by both increased during the period of P. L. 480 imports.

On the whole, it appears that bulk of the roller flour mill products went to hotels and restaurants, to households for preparation of snacks, and to bakeries and biscuit manufacturers for baking bread and biscuits. Most of this was a supplement rather than substitute to the total cereal consumption, in one form or the other, of people in urban areas.

This rather remarkable rise in consumption of wheat products could be attributed to a number of factors : ( i ) growth of urban population, ( ii ) rise in income, particularly urban, ( iii ) very large availability of wheat flour more suitable for the type of use to which mill products are usually put ( like baked bread ), at a fixed and relatively low price. The last point needs some elaboration.

It was noted earlier that the government had been selling wheat to the roller flour mills at a fixed price ( Rs. 14/- per maund ) ever since 1957. This also involved a requirement on the part of the mills to sell their products at fixed prices. While detailed wholesale or retail price quotations for wheat flour, and other mills products were not available, the wholesale price of wheat flour of one of the biggest Western Indian group of flour mills showed very little change since 1957. Even assuming that the mills marketed their products at prices agreed upon with the government, the question is : Did the retail

<sup>7</sup> This is assuming that the wheat content of biscuit is 75 per cent.

traders and various other processors of wheat flour, pass on this price to the final consumer ? This would depend on the structure of retail trade in the country. In view of the large number of retailers in urban areas, it is unlikely that the low prices of wheat flour, *suji*, etc., will not be passed on to the consumers.<sup>8</sup> The same cannot, however, be said of rural areas. No data were available relating to the prices of bakery products. The large number of small bakeries in big towns and cities would possibly ensure the low price reaching the consumers. Experience shows price of bread remained steady for a number of years in some urban areas. It, however, does not necessarily imply that the full benefit of low flour price was being passed on everywhere to the bread consumer. No data were also available about the price of biscuits, etc., and it is difficult to make a guess about them, in view of the small number of very large manufacturers who supply the market. Nothing can be said about the prices charged by hotels and restaurants. On the whole it would appear that in many instances the low prices of mill products were passed on to the consumers, but this cannot be firmly established on the basis of available data. The State had no mechanism to see that middlemen did not reap the profit from such low prices. To the extent the low price was passed on to the consumer, the relatively cheaper price of the products created greater demand for them.

A statistical analysis of the relation of wheat issued to the roller flour mills, with the open market price of wheat and income ( or trend ) showed that these two factors between them explained nearly 90 per cent of the total variation of wheat issued to roller flour mills, and income ( or trend, which stands mainly for income ) was the more important factor. ( For details, see Appedix to this chapter ).

The available data do not, however, enable us to estimate the effect of rising per capita income, and the income and substitution effects of the relatively lower price of mill products, separately. Therefore, all that can be said is that increasing population, urbanization and income gave rise to large demand for mill products, and this increased demand was met by the imported P. L. 480 wheat. Moreover, the fixed money price of the imported wheat and wheat products, compared to rising money and real incomes as well as other prices created increased demand for such products through both income and substitution effects.

To sum up, the imports under P. L. 480 helped cereal consumption in India increase twice as fast as cereal production. The most significant increase was in wheat consumption. Wheat substituted millets and other minor cereals in wheat growing regions, where millets are an inferior substitute. But in those states where millets are the staple food of the population, no substitution appears to have taken place, except possibly to some extent in urban area. In

<sup>8</sup> There is a strong suspicion in some informed sources of considerable illegal inter-state movement in wheat flour, and sales at high prices. The picture is not quite clear, but there is reason to believe that in years of high price of wheat there is a prospering black market in wheat flour.

wheat growing areas the increase in consumption was chiefly in the form of indigenous wheat, while elsewhere it was P. L. 480 wheat. For consumers buying whole wheat, imported American wheat was an inferior substitute to local wheat, and therefore, its customers belonged largely to the low income groups. The larger increase in wheat consumption was in the form of flour mill products. All over the country, in wheat, millet and rice eating regions, the increase in wheat consumption was greater in urban areas, which also were the chief users of mill products. Increased consumption of wheat was therefore a substitute for other cereals in a very limited sense; by and large it was a net addition to consumption of cereals. This large increase in consumption of wheat was possible because of P. L. 480 imports and the pricing and distribution policy of the government which resulted in increased consumption through income and substitution effects. In the next chapter, therefore, attention will be devoted to the price policy of the government, and the role of P. L. 480 imports in it.

## APPENDIX TO CHAPTER V

### 1. *Estimate of availability of cereals in India*

An estimate of the total human consumption of any cereal can be arrived at in the following manner :

Total domestic production + total imports — additions to stock — quantity used as seed, etc., — any industrial uses of the cereals, in a particular time period.

On some of these aspects no data were available. We shall describe the procedure followed in estimating these different items in case of each cereal in the following.

( a ) *The time period* : The period for which the estimates were made was of 12 months duration, beginning April every year. It could have been possible to choose the calendar year. But the April-March year appeared suitable from the point of view of wheat, and since wheat is the cereal of major interest in this study, such a year was chosen. Wheat crop is harvested in India towards the end of March and early April, and the new crop comes into the market in April. The harvest in any year is available for consumption in the following 12 months, from April to March.

Rice is harvested at different times of the year, depending on the type of rice grown and the region of the country. The bulk of the rice, however, is harvested between November and January. Even the crop harvested in October is not threshed and consequently consumed or marketed before the end of December. It was, therefore, decided to consider the calendar year as the convenient time period for estimating rice consumption.

*Bajra*, maize, the bulk of small millets are harvested around October. Barley is harvested at the same time as wheat, *i. e.*, March end. *Jowar* and *Ragi* are grown more than once in a year in many parts. The *Kharif jowar* is harvested in October, and the *Rabi jowar* in March.\* While *ragi* is a *Kharif* crop, in many areas two, or even three crops of *ragi* are grown in course of a year. Since there were both *Kharif* and *Rabi* crops in the other cereal groups, it was decided to estimate their consumption also for the April-March year. This, however, involves some adjustments in data relating to supply from production, which will be described below.

( b ) *Production* : The Directorate of Economics and Statistics of the Ministry of Food and Agriculture, publish estimate of the actual production of individual cereals every year. However, since there has been a continuous increase in the area for which such data are collected in the country, and

\**Kharif* crops are those grown between June and October-December, and *Rabi* crops are those grown between November and March.

also a steady change in the method of estimation of yields, the actual production estimates for the different years are neither comparable nor complete. Therefore, the Directorate has been publishing an index of production of each cereal, which, it is claimed, obviates this difficulty. For our purposes, we took this index for each cereal, published in the Bulletin on Food Statistics 1962, and using the revised estimates of actual production of 1958-59 as the base, converted the indices into actuals for the other years. Our production figures are thus adjusted figures, and not actuals published by the Directorate.

Agricultural production statistics relate to the Agricultural year, which is from July to June. Our availability year is, however, from April to March. Since wheat is harvested by March end, the production of wheat in the agricultural year, say 1960-61, is available for consumption in the availability year 1961-62. In case of rice, we treat calendar year as availability year, and the production of rice in Agricultural year 1960-61, for example, is considered available for consumption in 1961. In case of other cereals the task becomes a little more complicated. Since Barley is harvested in March, its production in 1960-61 is available for consumption in availability year 1961-62. Kharif cereals like *Bajra*, Maize, small millets and *Ragi* are considered harvested in October. Since our availability year begins in April, the supply from production during this year is estimated as follows :

Availability from production of other Kharif Cereals in 1960-61 (April-March) =  $1/2$  production of these cereals in 1959-60 +  $1/2$  production in 1960-61 (both agricultural years).

In regard to *jowar* the total production in an agricultural year was divided in the proportion 65 : 35, to represent roughly *Kharif* and *rabi jowar*. *Rabi jowar* was taken to be available in the availability year, while the estimated *kharif jowar* was attributed to the availability year in the same manner in which the other *kharif* millets were.

In the tables of availability estimate that follow, production, therefore, means availability from domestic production in the April-March year (calendar year for rice).

(c) *Imports* : Import and export data were available for calendar as well as financial years (April-March) for each cereal upto 1952-53 in "Food Situation in India, 1939-53", published by the Directorate. Thereafter the figures were for calendar years only. This was helpful for rice since our availability estimates for rice were for the calendar year. For wheat, and other cereals, this was not possible. We, therefore, used the monthly data on imports of these cereals, published regularly in the Directorate's periodical "Agricultural Situation in India", since 1951, to arrive at financial year import figures. The monthly import data were not final figures, and therefore, some discrepancies do arise. But these are not large.

(d) *Stocks* : The stocks of grain at any time would be with the Government, the private trade, producer farmers, cereal processing industries, and consumers. Absolutely no information is available in India about the stocks

with any but the Government. Statements on stocks of rice, wheat, and other cereals separately with the Central and State Governments at the end of each month from January 1956 to December 1962, were made available to us by the Directorate. This enabled estimating changes in stocks during the calendar as well as the financial year, for the years since 1956. From 1951-56, however, the stock estimates were for end of December for all cereals. From 1951-53 these were estimated from the data in the ' Food Situation in India, 1939-53 and for the years 1953-56, from a variety of sources including the Annual Reports of the Ministry of Food and Agriculture. These are in the nature of informed guesses, and are therefore subject to a margin of error.

In case of wheat, in particular, non-availability of financial year end stock figures, has very likely created some wrong estimates for 1951-52 and 1952-53. We have reason to believe that our availability estimate for the former year is greater than the actual, and for the latter less. For the other years no great discrepancies are likely.

No deductions were made for cereals used as seed, feed or for industrial purposes.

For computing per capita estimates, provisional mid-year population estimate prepared by the Registrar General of Census ( published in Bulletin on Food Statistics, 1962 ) was used.

The Tables A. 5.1 to A. 5.6 summarize the relevant data for each cereal, and for cereals as a whole for the 11 years from 1951-62.

A different method of estimating availability would be as follows :

Total availability from production — total procurement by Government + total issues by Government, during the year.

Since monthly data on issues by Government, for the years earlier than 1956, came into our hands very late, these estimates could not be used in the report. They are, however, presented in Table A. 5.7 for information and check.

Two points need be noted in connection with these estimates. Since monthly data on procurement by Government were not available for the years prior to 1956, the procurement estimates for wheat and other cereals are for calendar year, while their production and issue data relate to financial years. This may not, however, create large discrepancies.

Besides, in the following estimates revised mid-year population estimates prepared by the Registrar General's office, ( published in Bulletin on Food Statistics, 1963 ) are used to arrive at per capita figures. The total and per capita availability estimates, are presented in Table A. 5.7.

## 2. *Statewise estimate of availability of cereals*

This is more difficult than all-India estimates. While the same method as in case of all-India estimate was used, certain important points deserve notice.

The major defect is that the production estimates are actuals, with all the associated drawbacks, noted in section 1. No indices of production were available for States, at the time of the preparation of this report.

The availability year in case of all cereals including rice, was the financial year (April-March). This became necessary because the inter-regional trade data were available for financial years only. Therefore, estimates of availability from production of rice had to be made in a manner analogous to that in case of *Kharif* millets.

The data about movement of grains from one State to another were very incomplete. Only data on movements by rail and coastal steamer were available. No data on import or export of grain by road were available. This is a serious drawback, inasmuch as road traffic in goods has increased vastly in recent years. Besides, one did not expect to get any data on illegal movements of grain across State borders.

Because of data problems, in some cases, the alternate method of estimation described in the earlier section was used.

Finally, sometimes estimates were a combination of both these methods, the choice of the method for a particular year based entirely on our judgement. A word about the estimates for Orissa. Data on production of rice, its chief cereal, show a sharp increase in 1958-59, because of a change to crop cutting survey method of estimating yield. This creates complete non-comparability of the data before and after this date. In the text, therefore, no use is made of the Orissa figures.

Similarly, there is a sharp increase in the production of rice and other cereals since 1958-59. It was not possible for us to ascertain the reasons for this. Since we suspect some statistical error in the figures, the data have to be used with care.

The data are given in Tables A. 5.8 to A. 5.11.

### 3. *Factors affecting offtake of wheat from fair price shops*

It was hypothesized that the quantity of wheat sold by the fair price shops at anytime would depend upon (i) the open market price of wheat in relation to the issue price of wheat, (ii) the stocks of wheat at the beginning of the period plus the total imports during the period, (iii) the issue of rice during the period, and (iv) the total income during the period.

The issue of wheat through fair price shops began to increase towards the latter part of 1956. Since monthly data of issue of wheat were available upto the end of 1962, the seven years from 1956 to 1962 were considered for the analysis. Quarterly data were used, the quarters being January-March, and so on.

Since there had been no change in the issue price of wheat during the seven years, the average open market wholesale price of wheat was taken as the price variable. The all-India average wholesale price of wheat was an average for 17 centres, for which price data were published in the Bulletin on Food Statistics.

The stock plus imports data related to the stock of wheat with the Government at the beginning of the quarter plus the imports from abroad during

that quarter. From the 15th quarter the figures were kept constant since at that high level, quarterly fluctuations ceased to be material. Data on issue of rice were available on monthly basis and were computed for quarters for our analysis.

Total National Income estimates were available for financial years. We made some adjustments in the official Income estimates. These adjustments are explained in the Appendix to Chapter VI. For arriving at quarterly income, the estimated annual income was divided by 4.

The model was as follows :

$$Y = a + bx_1 + cx_2 + dx_3 + fx_4 \dots\dots\dots (1)$$

where Y = issue of wheat through fair price shops during the quarter.

$x_1$  = wholesale open market price of wheat,

$x_2$  = Stocks of wheat with Government at the beginning of the quarter, plus imports during the quarter,

$x_3$  = Issue of rice during the quarter,

$x_4$  = National Income at current price during the quarter.

In a variation of this model, National Income at constant prices (1948-49 prices) was used instead of the one at current prices

$$Y = a' + b'x_1 + c'x_2 + d'x_3 + hx'_4 \dots\dots\dots (2)$$

when  $x'_4$  is National Income at constant price.

The results of the regression analysis are summarized below :

Equation	Regression coefficients of					$R^2$
	$x_1$	$x_2$	$x_3$	$x_4$	$x_5$	
1	4.0295 (1.84)	0.3186 (0.05)	0.6153 (0.17)	-34.9047 (6.10)	—	0.826
2	3.8984 (1.74)	0.2685 (0.04)	0.6328 (0.17)	—	-53.0729 (8.70)	0.832

Note : The figures in brackets are standard errors. The coefficients of  $x_1$  in both the equations are significant at 5 per cent level. All others are significant at 1 per cent. The Durbin-Watson test for serial correlation was negative.

#### 4. Factors affecting issue of wheat to roller flour mills

The following models were postulated—

$$I_R = a + bP_W + cT \quad (1)$$

$$I_R = a' + b'P_W + dY \quad (2)$$

$$I_R = a'' + b''P_W + d'Y' \quad (3)$$

where

$I_R$  = Issue of wheat to roller flour mills during the quarter.

$P_w$  = Wholesale market price of wheat during the quarter.

T = Linear trend

Y = National Income originating in non-agriculture at current prices, for quarters.

Y' = Total National Income at current prices for quarters.

The results are summarized below :

Equation	Regression Coefficients of				R <sup>2</sup>
	PW	T	Y	Y'	
1	3.645 (1.016)	16.093 (1.016)	—	—	0.917
2	5.821 (1.40)	—	54.413 (5.00)	—	0.841
3	5.580 (1.14)	—	—	30.422 (2.20)	0.894

Note : All the coefficients are significant at 1 per cent. Figures in brackets are standard errors.

The detailed data for this and the earlier section are presented in Table A. 5. 12.

Table A 5.1 : Availability of Cereals in India, 1951-52 to 1961-62

Availability Year (April-March)	Production	Total availability	Production as per cent of availability	Per capita production	Per capita availability	Index of aggregate production	Index of Total availability	Index of Per capita production	Index of per capita availability
	'000 metric tonnes			In kilograms					
1951-52	46030	50799	90.6	127.1	140.3	86.3	91.8	88.9	94.6
1952-53	47262	49866	94.8	128.6	135.7	88.6	90.8	90.0	91.5
1953-54	53342	55345	96.4	142.9	148.3	100.0	100.0	100.0	100.0
1954-55	60908	61787	98.6	160.4	162.7	114.2	111.6	112.2	109.7
1955-56	57839	59144	97.8	149.5	152.9	108.4	106.8	104.6	103.1
1956-57	57638	59969	96.1	146.1	152.1	108.1	108.4	102.2	102.6
1957-58	60963	63672	95.7	151.4	158.1	114.3	115.0	105.9	106.6
1958-59	56950	60871	93.6	138.4	147.9	106.8	110.0	96.9	99.7
1959-60	65332	68523	95.3	155.2	162.8	122.5	123.8	108.6	109.8
1960-61	64233	67933	94.6	149.0	157.6	120.4	122.7	104.3	106.3
1961-62	68010	71716	94.8	153.9	162.3	127.5	129.6	107.7	109.4

Table A 5.2 : Availability of Wheat in India, 1951-52 to 1961-62

Availability Year (April-March)	Production	Net Imports	Decline in Stocks	Net total availability (2)+(3)+(4)	Production as per cent of availability	Index of Production	Index of availability	Per capita production	Per capita availability	Index of per production	Index of per availability
1	2	3	4	5	6	7	8	9	10	11	12
	.....	'000 Metric Tonnes	.....					In kilograms			
1951-52	6830	3671	— 406	10095	67.7	89.7	112.5	18.9	27.9	92.6	115.8
1952-53	6344	1836	— 315	7865	80.7	83.3	87.6	17.3	21.4	84.8	88.8
1953-54	7614	1211	151	8976	84.8	100.0	100.0	20.4	24.1	100.0	100.0
1954-55	8107	364	807	9278	87.4	106.5	103.4	21.4	24.4	104.9	101.2
1955-56	9147	331	— 150	9328	98.1	120.1	103.9	23.6	24.1	115.7	100.0
1956-57	8870	1617	— 43	10444	84.9	116.5	116.4	22.5	26.5	110.3	109.9
1957-58	9506	3030	— 868	11668	81.5	124.9	130.0	23.6	29.0	115.7	120.3
1958-59	8005	3046	420	11471	69.8	105.1	127.8	19.4	27.9	95.1	115.8
1959-60	9958	3314	— 120	13152	75.7	130.8	146.5	23.7	31.2	116.2	129.4
1960-61	10249	4327	—1032	13544	75.7	134.6	150.9	23.8	31.4	116.7	130.3
1961-62	10992	2826	330	14148	77.7	144.4	157.6	24.9	32.0	122.1	132.8

Table A 5.3 : Availability of Rice in India, 1951 to 1962

Availability Year	Production	Net Imports	Decline in stocks	Net Total Availability 2+3+4	Production as per cent of Availability	Index of Production	Index of Availability	Per Capita Production	Per Capita Availability	Index of per Capita Production	Index of per Capita Availability
1	2	3	4	5	6	7	8	9	10	11	12
	.....'000 Metric Tonnes.....					....in Kgs. ....					
1951	22072	761	— 70	22763	97.0	90.8	92.5	61.0	62.9	93.7	95.4
1952	22622	734	— 242	23114	97.9	93.1	94.0	61.6	62.9	94.6	95.4
1953	24305	178	+ 116	24599	98.8	100.0	100.0	65.1	65.9	100.0	100.0
1954	29779	606	—1021	29364	101.4	122.5	119.4	78.4	77.3	120.4	117.3
1955	26566	166	+ 951	27683	96.0	109.3	112.5	68.7	71.6	105.5	108.6
1956	28675	288	+ 465	29428	97.4	118.0	119.6	72.7	74.6	111.7	113.2
1957	30232	748	— 143	30837	98.0	124.4	125.4	75.1	76.6	115.4	116.2
1958	26541	397	— 19	26919	98.6	109.2	109.4	64.5	65.4	99.1	99.2
1959	32238	295	— 370	32163	100.2	132.6	130.7	76.6	76.4	117.7	115.9
1960	31462	699	— 351	31810	98.9	129.4	129.3	73.0	73.8	112.1	112.0
1961	34198	384	+ 123	34705	98.5	140.7	141.1	77.4	78.6	118.9	119.3
1962	34147	390	+ 299	34836	98.0	140.5	141.6	75.4	76.9	115.8	116.7

Table A 5.4 : Availability of Other Cereals in India, 1951-52 to 1961-62  
( Other Cereals : Jowar, Bajra, Maize, Small Millets, Ragi, Barley )

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Availability Year (April-March)	Production	Net Imports	Decline in Stocks	Total Availability (2) + (3) + (4)	Per Capita Production	Per Capita Availability	Index of Production	Index of Availability	Index of Per Capita Production	Index of Per Capita Availability
1	2	3	4	5	6	7	8	9	10	11
	..... '000 Metric Tonnes .....				Kilograms per year					
1951-52	17128	976	- 163	17941	47.3	49.5	80.0	82.4	82.4	84.9
1952-53	18296	641	- 50	18887	49.8	51.4	85.4	86.8	86.8	88.2
1953-54	21423	146	+ 201	21770	57.4	58.3	100.0	100.0	100.0	100.0
1954-55	23022	8	+ 115	23145	60.6	61.0	107.5	106.3	105.6	104.6
1955-56	22126	nil	+ 7	22133	57.2	57.2	103.3	101.7	99.6	98.1
1956-57	20093	nil	+ 4	20097	50.9	51.0	93.8	92.3	88.7	87.5
1957-58	21225	nil	- 58	21167	52.7	52.6	99.1	97.2	91.8	90.2
1958-59	22404	111	- 34	22481	54.4	54.6	104.6	103.3	94.8	93.6
1959-60	23136	20	+ 52	23208	55.0	55.1	108.0	106.6	95.8	94.5
1960-61	22522	52	+ 5	22579	52.2	52.4	105.1	103.7	90.9	89.9
1961-62	22820	19	+ 24	22863	51.7	51.8	106.5	105.0	90.1	88.8

Table A 5.5 : Total and per capita production of Other Cereals in India

( Totals in '000 M. Tonnes; per capita in kilograms )

Availability Year ( April-March )	Jowar		Bajra		Maize		Small Millets		Ragi		Barley	
	Aggregate Production	Per Capita Production										
1951—52	6400	17.7	2545	7.0	2580	7.1	1810	5.0	1270	3.5	2523	7.0
1952—53	6941	18.9	2721	7.4	3120	8.5	1898	5.2	1227	3.3	2389	6.5
1953—54	7650	20.5	3665	9.8	3523	9.4	2174	5.8	1487	4.0	2924	7.8
1954—55	8484	22.3	3872	10.2	3581	9.4	2454	6.5	1689	4.4	2943	7.8
1955—56	8399	21.7	3446	8.9	3332	8.6	2253	5.8	1723	4.5	2973	7.7
1956—57	6922	17.6	3164	8.0	3405	8.6	1973	5.0	1793	4.5	2830	7.2
1957—58	7750	19.2	3247	8.1	3733	9.3	1823	4.5	1800	4.5	2873	7.1
1958—59	8763	21.3	3744	9.1	3772	9.2	1961	4.8	1873	4.6	2291	5.6
1959—60	8741	20.8	3722	8.8	3918	9.3	2120	5.0	1943	4.6	2693	6.4
1960—61	8537	19.8	3400	7.9	4043	9.4	2018	4.7	1808	4.2	2717	6.3
1961—62	8852	20.0	3392	7.7	4040	9.1	1941	4.4	1729	3.9	2867	6.5

Table A 5.6 : *The share of Rice, Wheat, and Other Cereals in the total Production and Availability of Cereals in India*

<i>Availability Year ( April-March )</i>	<i>Production</i>			<i>Availability</i>		
	<i>Rice</i>	<i>Wheat</i>	<i>Other Cereals *</i>	<i>Rice</i>	<i>Wheat</i>	<i>Other Cereals</i>
1951—52	48.0	14.8	37.2	44.8	19.9	35.3
1952—53	47.9	13.4	38.7	46.4	15.8	37.8
1953—54	45.6	14.3	40.1	44.5	16.2	39.3
1954—55	48.9	13.3	37.8	47.5	15.0	37.5
1955—56	45.9	15.8	38.3	46.8	15.8	37.4
1956—57	49.7	15.4	34.9	49.1	17.4	33.5
1957—58	49.6	15.6	34.8	48.4	18.3	33.3
1958—59	46.6	14.1	39.3	44.2	18.9	36.9
1959—60	49.3	15.3	35.4	46.9	19.2	33.9
1960—61	49.0	15.9	35.1	46.9	19.9	33.2
1961—62	50.3	16.2	33.5	48.4	19.7	31.9

Table A 5.7 : Total and per capita availability of cereals ( Alternate method of estimation )

Year (April-March)	Total Availability				Per Capita Availability			
	Rice	Wheat	Other Cereals	All Cereals *	Rice	Wheat	Other Cereals	All Cereals
1	2	3	4	5	6	7	8	9
	.....In '000 Metric Tonnes.....				..... In Kilograms .....			
1951—52	22,770	9,634	17,958	50,362	62.6	26.5	49.4	138.5
1952—53	23,113	8,250	18,867	50,230	62.5	22.3	51.0	135.8
1953—54	24,601	9,224	21,724	55,549	65.4	24.5	57.8	147.7
1954—55	29,459	8,836	23,100	61,395	76.9	23.1	60.3	160.3
1955—56	27,737	9,489	22,165	59,391	71.1	24.3	56.8	152.2
1956—57	29,538	10,391	20,095	60,024	74.3	26.1	50.5	150.9
1957—58	30,825	11,655	21,163	63,643	75.9	28.7	52.1	156.7
1958—59	26,911	11,459	22,530	60,900	65.0	27.7	54.4	147.1
1959—60	32,156	13,155	23,192	68,503	76.0	31.1	54.8	161.9
1960—61	31,785	13,552	22,557	67,894	73.5	31.3	52.1	156.9
1961—62	34,629	13,996	22,862	71,487	78.2	31.6	51.6	161.4
1962—63	34,801	14,919	N. A.	N. A.	76.8	32.9	N. A.	N. A.

- Notes : 1. Availability estimates for rice relate to calendar years.
2. Estimates of wheat for 1962-63 are based on issue data for only 9 months of the year.
3. Production estimates for 1960-61 are partially revised and for 1961-62 are final estimates.  
N. A. = Not available.

Table A 5.8 : *Per capita availability of cereals in different States of India*

( In Kgs. )

Year (April-March)	Punjab Region				Uttar Pradesh			
	Wheat	Rice	Others	Total	Wheat	Rice	Others	Total
1953—54	95.2 ( 100 )	11.4 ( 100 )	67.4 ( 100 )	174.0 ( 100 )	46.2 ( 100 )	31.6 ( 100 )	83.1 ( 100 )	160.9 ( 100 )
1954—55	92.5 ( 97 )	14.3 ( 125 )	62.4 ( 93 )	169.2 ( 97 )	46.4 ( 100 )	34.4 ( 109 )	85.1 ( 102 )	165.9 ( 103 )
1955—56	97.0 ( 102 )	13.1 ( 115 )	50.5 ( 75 )	160.6 ( 92 )	47.7 ( 103 )	35.8 ( 113 )	82.1 ( 99 )	165.6 ( 103 )
1956—57	94.0 ( 99 )	13.3 ( 117 )	51.8 ( 77 )	159.1 ( 91 )	47.6 ( 103 )	35.4 ( 112 )	70.6 ( 85 )	153.6 ( 95 )
1957—58	103.7 ( 109 )	14.9 ( 131 )	53.8 ( 80 )	172.4 ( 99 )	48.6 ( 105 )	33.3 ( 105 )	71.8 ( 86 )	153.7 ( 96 )
1958—59	104.2 ( 109 )	15.2 ( 133 )	52.4 ( 78 )	171.8 ( 99 )	46.9 ( 101 )	37.3 ( 118 )	67.7 ( 81 )	151.9 ( 94 )
1959—60	119.9 ( 126 )	16.5 ( 145 )	51.8 ( 77 )	188.2 ( 108 )	51.0 ( 110 )	37.7 ( 119 )	71.4 ( 86 )	160.1 ( 100 )
1960—61	107.7 ( 113 )	15.7 ( 138 )	51.2 ( 76 )	174.6 ( 100 )	52.1 ( 113 )	38.7 ( 122 )	66.5 ( 80 )	157.3 ( 98 )
1961—62	117.4 ( 123 )	14.3 ( 125 )	49.7 ( 74 )	181.4 ( 104 )	59.0 ( 128 )	44.5 ( 141 )	67.8 ( 82 )	171.3 ( 106 )

\*Punjab region includes Punjab, Himachal Pradesh and Delhi.

Figures in brackets are indices with 1953-54 = 100.

Table A 5.8 : Per capita availability of cereals in different States of India ( Contd. )

( In Kgs. )

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Year (April-March)	Rajasthan				Madhya Pradesh			
	Wheat	Rice	Others	Total *	Wheat	Rice	Others	Total
1953—54	44.3 (100)	3.8 (100)	131.2 (100)	179.3 (100)	32.4 (100)	69.9 (100)	50.8 (100)	153.1 (100)
1954—55	39.0 ( 88)	5.5 (145)	144.8 (110)	189.3 (106)	30.9 ( 95)	67.6 ( 97)	50.9 (100)	149.4 ( 98)
1955—56	46.7 (105)	5.8 (153)	121.9 ( 93)	174.4 ( 97)	36.0 (111)	69.4 ( 99)	44.9 ( 88)	150.3 ( 98)
1956—57	51.5 (116)	6.3 (166)	115.7 ( 88)	173.4 ( 97)	40.8 (126)	77.0 (110)	42.9 ( 84)	160.7 (105)
1957—58	75.2 (170)	3.9 (103)	106.5 ( 81)	185.6 (104)	43.1 (133)	62.1 ( 89)	45.3 ( 89)	150.4 ( 98)
1958—59	50.4 (114)	3.2 ( 84)	129.1 ( 98)	182.7 (102)	32.1 ( 99)	63.2 ( 90)	48.3 ( 95)	143.6 ( 94)
1959—60	59.0 (133)	5.5 (145)	128.6 ( 98)	193.1 (108)	48.6 (150)	66.3 ( 95)	53.9 (106)	168.8 (110)
1960—61	54.2 (122)	5.5 (145)	118.8 ( 91)	178.6 (100)	54.2 (167)	70.9 (101)	54.4 (107)	179.5 (117)
1961—62	56.0 (126)	6.2 (163)	125.3 (96)	187.5 (105)	46.1 (142)	73.1 (105)	51.6 (102)	170.8 (112)

Table A 5.8 : Per capita availability of cereals in different States of India ( Contd. )

( In Kgs. )

Year (April-March)	Maharashtra and Gujarat				Bihar				West Bengal			
	Wheat	Rice	Others	Total*	Wheat	Rice	Others	Total*	Wheat	Rice	Others	Total
1953—54	19.1 ( 100 )	27.5 ( 100 )	89.2 ( 100 )	135.8 ( 100 )	12.5 ( 100 )	90.6 ( 100 )	20.2 ( 100 )	123.3 ( 100 )	16.3 ( 100 )	173.7 ( 100 )	2.9 ( 100 )	192.9 ( 100 )
1954—55	16.1 ( 84 )	38.4 ( 140 )	103.7 ( 116 )	158.2 ( 116 )	10.6 ( 85 )	79.6 ( 88 )	18.7 ( 93 )	108.9 ( 88 )	12.4 ( 76 )	192.0 ( 111 )	3.2 ( 110 )	207.6 ( 108 )
1955—56	18.8 ( 98 )	33.4 ( 122 )	101.9 ( 114 )	154.1 ( 113 )	11.9 ( 95 )	75.5 ( 83 )	18.4 ( 91 )	105.8 ( 86 )	12.6 ( 77 )	145.8 ( 84 )	3.3 ( 114 )	161.7 ( 84 )
1956—57	19.4 ( 101 )	34.3 ( 125 )	85.9 ( 96 )	139.6 ( 103 )	10.7 ( 86 )	91.8 ( 101 )	18.0 ( 89 )	120.5 ( 98 )	13.9 ( 85 )	161.1 ( 93 )	3.2 ( 110 )	178.2 ( 92 )
1957—58	18.8 ( 98 )	36.8 ( 134 )	94.0 ( 105 )	149.6 ( 110 )	14.8 ( 118 )	75.6 ( 83 )	16.4 ( 81 )	106.8 ( 87 )	19.7 ( 121 )	152.0 ( 88 )	3.0 ( 104 )	174.7 ( 90 )
1958—59	23.8 ( 124 )	32.4 ( 118 )	96.8 ( 109 )	153.0 ( 113 )	24.5 ( 196 )	80.7 ( 89 )	19.7 ( 98 )	124.8 ( 101 )	23.3 ( 143 )	145.3 ( 84 )	3.2 ( 110 )	171.8 ( 89 )
1959—60	28.9 ( 151 )	35.7 ( 130 )	97.6 ( 109 )	162.2 ( 119 )	18.0 ( 144 )	95.9 ( 106 )	28.4 ( 141 )	142.3 ( 115 )	24.2 ( 148 )	142.8 ( 82 )	2.7 ( 93 )	169.7 ( 88 )
1960—61	31.8 ( 166 )	32.8 ( 119 )	87.0 ( 98 )	151.6 ( 112 )	18.6 ( 149 )	96.6 ( 107 )	30.4 ( 150 )	145.6 ( 118 )	22.0 ( 135 )	151.5 ( 87 )	2.5 ( 86 )	176.0 ( 91 )
1961—62	29.6 ( 155 )	35.6 ( 130 )	94.1 ( 105 )	159.3 ( 117 )	18.4 ( 147 )	98.3 ( 108 )	26.2 ( 130 )	142.9 ( 116 )	22.5 ( 138 )	162.5 ( 94 )	1.8 ( 62 )	186.8 ( 97 )

Table A 5.8 : Per capita availability of cereals in different States of India (Contd.)

Year (April- March)	Assam				Orissa				Southern States *			
	Wheat	Rice	Others	Total	Wheat	Rice	Others	Total	Wheat	Rice	Others	Total
1953-54	2.8 (100)	180.7 (100)	1.0 (100)	184.5 (100)	0.7 (100)	132.2 (100)	6.1 (100)	139.0 (100)	2.4 (100)	62.7 (100)	60.6 (100)	125.7 (100)
1954-55	0.5 (18)	179.9 (99)	1.1 (110)	181.5 (98)	0.8 (114)	135.9 (103)	5.9 (97)	142.6 (103)	1.2 (50)	75.6 (121)	67.1 (111)	143.8 (114)
1955-56	1.0 (36)	176.5 (98)	0.7 (70)	178.3 (97)	0.5 (72)	137.2 (104)	5.9 (97)	143.6 (103)	1.3 (54)	80.0 (128)	63.0 (104)	144.3 (115)
1956-57	2.3 (82)	171.7 (95)	0.7 (70)	174.7 (95)	0.8 (114)	133.3 (101)	5.8 (95)	139.9 (101)	2.2 (92)	82.0 (131)	56.5 (93)	140.6 (112)
1957-58	5.0 (179)	167.0 (92)	0.8 (80)	172.8 (94)	1.3 (186)	130.7 (99)	4.4 (72)	136.4 (98)	2.7 (112)	84.0 (134)	54.0 (89)	140.7 (112)
1958-59	6.9 (246)	153.3 (85)	0.7 (70)	160.8 (87)	1.3 (186)	110.9 (84)	3.3 (54)	115.5 (83)	2.4 (100)	83.8 (134)	57.8 (95)	144.0 (115)
1959-60	7.7 (275)	149.7 (83)	0.6 (60)	158.1 (86)	1.6 (229)	139.4 (105)	3.2 (52)	144.2 (104)	3.1 (129)	89.8 (143)	58.0 (96)	150.9 (120)
1960-61	7.3 (261)	145.0 (80)	0.0 (—)	152.2 (82)	1.9 (272)	202.1 (153)	3.3 (54)	207.3 (149)	3.8 (158)	90.1 (144)	57.0 (94)	150.9 (120)
1961-62	8.3 (296)	144.9 (80)	0.4 (40)	153.7 (83)	2.4 (343)	197.0 (149)	3.4 (56)	202.8 (146)	4.2 (175)	89.8 (143)	55.7 (92)	149.7 (119)

\* These include Andhra Pradesh, Madras, Mysore, and Kerala.

Table A-5.9 : Per capita production of cereals in different States in India

(In. Kgs.)

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Year (April-March)	Punjab Region *				Uttar Pradesh			
	Wheat	Rice	Others	Total *	Wheat	Rice	Others	Total
1953-54	91.9 (100)	14.1 (100)	67.6 (100)	173.6 (100)	44.4 (100)	32.3 (100)	83.2 (100)	159.8 (100)
1954-55	93.0 (101)	14.4 (102)	59.8 (89)	167.2 (96)	48.2 (108)	34.2 (104)	86.6 (104)	168.9 (106)
1955-56	100.7 (110)	13.1 (93)	51.1 (76)	164.9 (95)	50.2 (113)	36.0 (111)	83.1 (100)	169.3 (106)
1956-57	91.9 (100)	13.7 (97)	55.1 (82)	160.7 (93)	45.8 (103)	36.4 (113)	71.8 (86)	154.0 (96)
1957-58	100.7 (110)	15.8 (112)	56.2 (83)	172.7 (99)	46.2 (104)	34.0 (105)	73.9 (89)	154.1 (96)
1958-59	94.9 (103)	17.3 (123)	53.2 (79)	165.4 (95)	39.4 (89)	38.5 (119)	65.7 (79)	143.7 (90)
1959-60	107.5 (117)	19.5 (138)	53.1 (79)	180.1 (104)	43.5 (98)	38.7 (120)	73.8 (89)	156.0 (98)
1960-61	99.3 (108)	20.9 (148)	53.6 (79)	173.8 (100)	45.6 (103)	38.8 (120)	67.6 (81)	152.0 (95)
1961-62	113.3 (123)	21.7 (154)	51.4 (76)	186.4 (107)	53.5 (120)	44.3 (137)	67.8 (81)	165.5 (104)

\* Punjab region includes Punjab, Himachal Pradesh and Delhi.

Figures in brackets are indices with 1953-54 = 100.

Table A 5.9 : Per capita production of cereals in different States in India ( Contd. )

( In. Kgs. )

Year (April-March)	Rajasthan				Madhya Pradesh			
	Wheat	Rice	Others	Total *	Wheat	Rice	Others	Total
1953—54	44.7 (100)	3.8 (100)	134.6 (100)	183.0 (100)	30.9 (100)	74.3 (100)	55.1 (100)	160.2 (100)
1954—55	40.3 ( 90)	4.8 (126)	150.7 (112)	195.8 (107)	32.0 (104)	71.7 ( 97)	56.0 (102)	159.7 (100)
1955—56	50.0 (112)	4.8 (126)	127.1 ( 94)	181.9 ( 99)	40.2 (130)	73.4 ( 99)	49.1 ( 89)	162.8 (102)
1956—57	52.4 (117)	4.9 (129)	117.6 ( 87)	175.0 ( 96)	41.8 (135)	83.3 (112)	45.6 ( 83)	170.7 (107)
1957—58	74.1 (166)	3.0 ( 79)	107.4 ( 80)	184.6 (101)	45.2 (146)	71.3 ( 96)	50.9 ( 92)	167.4 (104)
1958—59	45.5 (102)	2.9 ( 76)	130.8 ( 97)	179.2 ( 98)	28.7 ( 93)	69.9 ( 94)	55.2 (100)	153.8 ( 96)
1959—60	55.1 (123)	5.3 (139)	132.2 ( 98)	192.5 (105)	49.5 (160)	82.0 (110)	56.4 (102)	188.0 (117)
1960—61	53.7 (120)	4.6 (121)	120.2 ( 89)	178.4 ( 97)	56.7 (183)	81.8 (110)	57.8 (105)	196.3 (123)
1961—62	50.2 (112)	4.9 (129)	127.5 ( 95)	182.6 (100)	46.9 (152)	83.4 (112)	53.9 ( 98)	184.2 (115)

Table A 5.9 : Per capita production of cereals in different States in India ( Contd. )

( In Kgs. )

Year (April-March)	Maharashtra and Gujarat				Bihar				West Bengal			
	Wheat	Rice	Others	Total	Wheat	Rice	Others	Total	Wheat	Rice	Others	Total
1953-54	8.5 (100)	24.4 (100)	84.6 (100)	117.5 (100)	9.4 (100)	90.2 (100)	20.0 (100)	119.6 (100)	1.4 (100)	168.0 (100)	3.1 (100)	172.5 (100)
1954-55	11.0 (129)	29.2 (120)	98.6 (117)	138.8 (118)	9.9 (105)	78.3 ( 87)	18.2 ( 91)	106.4 ( 89)	1.4 (100)	185.8 (111)	3.2 (103)	190.4 (110)
1955-56	12.3 (145)	28.7 (118)	96.4 (114)	137.4 (117)	10.5 (112)	71.0 ( 79)	17.3 ( 86)	98.8 ( 83)	1.7 (121)	145.1 ( 86)	3.1 (100)	149.9 ( 87)
1956-57	12.8 (151)	27.5 (113)	80.7 ( 95)	121.0 (103)	8.8 ( 94)	87.0 ( 96)	17.3 ( 86)	113.1 ( 95)	1.6 (114)	151.9 ( 90)	3.1 (100)	156.6 ( 91)
1957-58	10.9 (128)	27.2 (112)	87.3 (103)	125.4 (107)	4.4 ( 47)	72.4 ( 80)	15.9 ( 80)	92.7 ( 78)	0.9 ( 64)	148.8 ( 89)	3.0 ( 97)	152.7 ( 89)
1958-59	9.2 (108)	26.5 (109)	92.3 (109)	128.0 (109)	6.4 ( 68)	79.0 ( 88)	17.7 ( 88)	103.1 ( 86)	0.6 ( 43)	135.9 ( 81)	2.1 ( 68)	138.6 ( 80)
1959-60	12.9 (152)	29.8 (122)	90.5 (107)	133.2 (113)	9.9 (105)	94.9 (105)	27.2 (136)	132.0 (110)	0.7 ( 50)	126.6 ( 75)	2.5 ( 81)	129.8 ( 75)
1960-61	11.5 (135)	27.3 (112)	82.2 ( 97)	121.0 (103)	7.8 ( 83)	95.4 (106)	28.9 (114)	132.1 (110)	0.9 ( 64)	134.3 ( 80)	2.4 ( 78)	137.6 ( 80)
1961-62	11.1 (131)	27.5 (113)	91.2 (108)	129.8 (110)	9.5 (101)	97.3 (108)	25.4 (127)	132.2 (111)	0.7 ( 50)	151.4 ( 90)	1.7 ( 55)	153.8 ( 89)

Table A 5.9 : Per capita production of cereals in different States in India ( Contd. )

( In Kgs. )

Year (April-March)	Assam				Orissa				Southern States *			
	Wheat	Rice	Others	Total	Wheat	Rice	Others	Total	Wheat	Rice	Others	Total
1953-54	0.2 (100)	182.9 (100)	1.2 (100)	184.3 (100)	0.2 (100)	151.8 (100)	6.2 (100)	158.2 (100)	0.7 (100)	57.4 (100)	59.1 (100)	117.2 (100)
1954-55	0.2 (100)	179.5 ( 98)	1.1 ( 92)	180.7 ( 98)	0.2 (100)	150.6 ( 99)	6.0 ( 97)	156.8 ( 99)	0.8 (114)	76.3 (133)	66.9 (113)	144.0 (123)
1955-56	0.2 (100)	176.7 ( 97)	0.8 ( 68)	177.7 ( 96)	0.2 (100)	142.4 ( 94)	5.9 ( 95)	148.5 ( 94)	0.8 (114)	78.1 (136)	63.0 (107)	141.9 (121)
1956-57	0.1 ( 50)	169.0 ( 92)	0.9 ( 75)	170.0 ( 92)	0.2 (100)	138.0 ( 91)	5.8 ( 93)	144.0 ( 91)	0.7 (100)	80.2 (140)	56.5 ( 96)	137.4 (117)
1957-58	0.1 ( 50)	166.6 ( 91)	1.0 ( 83)	167.7 ( 91)	0.2 (100)	135.7 ( 89)	4.5 ( 72)	140.4 ( 89)	0.8 (114)	83.1 (145)	54.0 ( 91)	137.9 (118)
1958-59	0.1 ( 50)	153.6 ( 84)	0.8 ( 68)	154.6 ( 84)	0.2 (100)	113.1 ( 75)	3.4 ( 55)	116.7 ( 74)	0.7 (100)	85.1 (148)	57.8 ( 98)	143.6 (122)
1959-60	0.1 ( 50)	150.0 ( 82)	0.7 ( 58)	150.8 ( 82)	0.2 (100)	153.5 (101)	3.4 ( 55)	157.1 ( 99)	0.7 (100)	87.8 (153)	58.0 ( 98)	146.5 (125)
1960-61	0.1 ( 50)	145.2 ( 79)	0.7 ( 58)	146.0 ( 79)	0.2 (100)	217.6 (143)	3.5 ( 56)	221.3 (140)	0.7 (100)	87.6 (153)	57.0 ( 96)	145.2 (124)
1961-62	0.3 (150)	140.6 ( 77)	0.8 ( 68)	141.7 ( 77)	0.2 (100)	211.9 (140)	3.5 ( 56)	215.6 (136)	0.7 (100)	86.7 (151)	55.6 ( 94)	143.0 (122)

\* These include Andhra Pradesh, Madras, Mysore, and Kerala.

Table A 5.10 : *Share of wheat, rice and other cereals in the availability of all cereals in different States in India*

( Percentages to total )

Year ( April- March )	Punjab Region *			Uttar Pradesh			Rajasthan			Madhya Pradesh			Maharashtra and Gujarat		
	Wheat	Rice	Others	Wheat	Rice	Others	Wheat	Rice	Others	Wheat	Rice	Others	Wheat	Rice	Others
1953—54	54.8	6.5	38.7	28.7	19.7	51.6	24.7	2.1	73.2	21.2	45.6	33.2	14.1	20.2	65.7
1954—55	54.7	8.4	36.9	28.0	20.7	51.3	20.6	2.9	76.5	20.7	45.2	34.1	10.2	24.3	63.5
1955—56	60.5	8.1	31.4	28.8	21.6	49.6	26.8	3.3	69.9	23.9	46.2	29.9	12.2	21.7	66.1
1956—57	59.1	8.4	32.5	31.0	23.0	46.0	29.7	3.6	66.7	25.4	47.9	26.7	13.9	24.6	61.5
1957—58	60.1	8.7	31.2	31.6	21.7	46.7	40.5	2.1	57.4	28.6	41.3	30.1	12.6	24.6	62.8
1958—59	60.6	8.9	30.5	30.8	24.5	44.6	27.6	1.8	70.6	22.4	44.0	33.6	15.6	21.2	63.3
1959—60	63.7	8.8	27.5	31.9	23.5	44.6	30.6	2.8	66.6	28.8	39.3	31.9	17.8	22.0	60.2
1960—61	61.7	9.0	29.3	33.1	24.6	42.3	30.4	3.1	66.5	30.2	39.5	30.3	21.0	21.6	57.4
1961—62	64.7	7.9	27.4	34.4	26.0	39.6	29.9	3.3	66.8	27.0	42.8	30.2	18.6	22.3	59.1

\* Punjab region includes Punjab, Himachal Pradesh and Delhi.

Table A 5.10 : Share of wheat, rice and other cereals in the availability of all cereals in different States in India (Contd.)

(Percentages to total)

Year ( April- March )	Bihar			West Bengal			Assam			Orissa			Southern States*		
	Wheat	Rice	Others	Wheat	Rice	Others	Wheat	Rice	Others	Wheat	Rice	Others	Wheat	Rice	Others
1953—54	10.1	73.5	16.4	8.4	90.0	1.5	1.5	97.9	0.5	0.5	95.1	4.4	1.9	49.9	48.2
1954—55	9.7	73.1	17.2	6.0	92.5	1.5	0.3	99.1	0.6	0.6	95.2	4.2	0.8	52.5	46.7
1955—56	11.2	7.4	17.4	7.8	90.2	2.0	0.5	99.0	0.4	0.4	95.5	4.1	0.9	55.4	43.7
1956—57	8.9	76.2	14.9	7.8	90.4	1.8	1.3	98.3	0.4	0.5	95.4	4.1	1.6	58.3	40.1
1957—58	13.9	70.8	15.3	11.3	87.0	1.7	2.9	96.6	0.5	0.9	95.9	3.2	1.9	59.7	38.4
1958—59	19.6	64.7	15.8	13.6	84.6	1.9	4.3	95.3	0.4	1.1	96.1	2.8	1.7	58.2	40.1
1959—60	12.6	67.4	20.0	14.3	84.1	1.6	4.9	94.7	0.4	1.1	96.7	2.2	2.0	59.5	38.5
1960—61	12.8	66.3	20.9	12.5	86.1	1.4	4.8	95.3	..	0.9	97.5	1.6	2.5	59.7	37.8
1961—62	12.9	68.8	18.3	12.0	87.0	1.0	5.4	94.3	0.3	1.2	97.2	1.6	2.8	60.0	37.2

\* These include Andhra Pradesh, Madras, Mysore, and Kerala.

Table A 5.11 : Share of total wheat issued, and of wheat issued to roller flour mills in the total availability of wheat in different States in India

Year ( April March )	Punjab Region*		Uttar Pradesh		Rajasthan		Madhya Pradesh		Maharashtra and Gujarat		Bihar		West Bengal		Assam		Orissa		Southern States**	
	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
1953—54	nil	nil	nil	3	nil	1	nil	8	nil	62	nil	25	nil	95	nil	65	nil	55	nil	69
1954—55	nil	nil	nil	1	nil	neg.	nil	neg.	nil	31	nil	5	nil	88	nil	60	nil	75	nil	28
1955—56	nil	nil	nil	1	nil	nil	nil	nil	nil	6	nil	2	nil	20	nil	nil	nil	63	nil	11
1956—57	4	12	1	10	nil	2	neg.	4	5	31	2	14	14	95	nil	nil	nil	25	2	20
1957—58	2	4	neg.	8	nil	1	neg.	2	19	42	4	70	39	99	4	70	nil	70	12	50
1958—59	5	9	3	18	neg.	10	2	11	17	39	5	74	35	97	12	99	5	86	44	70
1959—60	8	14	5	15	nil	7	neg.	1	17	55	8	45	32	99	14	88	4	67	45	76
1960—61	6	12	11	17	nil	1	nil	1	17	54	8	58	40	98	40	93	3	73	46	78
1961—62	7	11	9	12	neg.	3	2	2	17	33	8	48	33	72	57	95	14	73	53	78

\* Punjab region includes Punjab, Himachal Pradesh and Delhi.

\*\* These include Andhra Pradesh, Madras, Mysore and Kerala.

Note : Col. 1 : gives wheat issued to Roller flour mills as per cent of total wheat available in the State.

Col. 2 : gives total wheat issued by the Government as per cent of total wheat available in the State.

neg. = negligible.

Table A 5.12 : Quarterly data relating to issue of wheat, price of wheat, stocks, etc.

Year	Quarter	Issue of wheat to Fair Price shops ( '000 tons )	Issue of wheat to Roller Flour Mills ( '000 tons )	Issue of Rice ( '000 tons )	Price of wheat ( Index with 1952-53 = 100 )	Stocks + Imports ( '000 tons )	Total National Income at current prices (Abja. Rs.)	Total National Income at 1948-49 prices (Abja. Rs.)
1956	Jan-March	225	..	200	85	298	24.6	26.2
	April-June	179	..	104	80	245	25.8	26.9
	July-Sept.	266	..	234	87	485	25.8	26.9
	Oct-Dec.	468	24	312	91	620	25.8	26.9
1957	Jan-March	384	209	161	95	752	25.8	26.9
	April-June	303	163	178	91	725	29.1	27.8
	July-Sept.	429	131	249	88	1238	29.1	27.8
	Oct-Dec.	411	119	193	87	1329	29.1	27.8
1958	Jan-March	453	140	126	85	1539	29.1	27.8
	April-June	537	127	156	88	1559	29.1	27.8
	July-Sept.	802	185	304	101	1333	29.1	27.8
	Oct-Dec.	553	230	289	112	1322	29.1	27.8
1959	Jan-March	690	332	223	121	1645	29.1	27.8
	April-June	518	275	281	95	1583	32.4	29.8
	July-Sept.	619	294	495	96	1833	32.4	29.8
	Oct-Dec.	611	288	411	98	1515	32.4	29.8
1960	Jan-March	562	318	242	96	1564	32.4	29.8
	April-June	532	295	308	88	1902	33.9	30.9
	July-Sept.	683	378	406	91	2444	33.9	30.9
	Oct-Dec.	518	390	272	90	2590	33.9	30.9
1961	Jan-March	472	405	201	91	2609	33.9	30.9
	April-June	323	307	183	87	2416	36.7	32.7
	July-Sept.	354	374	292	88	2529	36.7	32.7
	Oct-Dec.	392	384	260	92	2589	36.7	32.7
1962	Jan-March	385	502	240	97	2309	36.7	32.7
	April-June	264	366	236	89	2092	38.2	33.6
	July-Sept.	409	433	358	92	2561	38.2	33.6
	Oct-Dec.	437	427	306	90	2488	38.2	33.6

## CHAPTER VI

### IMPACT ON PRICES OF FOODGRAINS

In this chapter we shall examine the trend in prices of cereals during the years of P. L. 480 imports, and the role of imports and issues, as well as of the various other measures taken by the Government in this connection from time to time.

It has been noted earlier that one of the main purposes of the Government of India in entering into agreements under P. L. 480 was to control the food-grain prices. Prices of foodgrains were vital to the success of the plans of economic development which India had launched. Acute shortages and high prices of foodgrains were a frequent feature of the Indian economy. During the four years since 1952-53, the price of cereals first declined by 24 per cent and then rose by 33 per cent. The purpose of P. L. 480 imports was not only to prevent such sharp fluctuations in price of cereals, but also to check any excess pressure of the general inflationary forces on prices of cereals, which might arise due to the slower rate of increase in production of cereals than of other commodities in the economy. The release of P. L. 480 foodgrains in the market came to play the pivotal role in the price policy of the government, while a number of administrative measures were also taken to aid and supplement this.

Ever since the beginning of the Second Five-Year Plan in 1956-57 the economy had been subject to both increasing investment expenditure and increasing budgetary deficits. The total investment expenditure during these five years was Rs. 6,750 crores, of which Rs. 3,650 crores were in the public sector. Nearly Rs. 1,000 crores of this in the public sector, was met through deficit financing, i. e., net borrowing from the Central Bank and/or drawing down the cash reserves. Besides, there was considerable expansion of bank credit. The Second Plan period saw a 33 per cent increase in money supply in the country, while the supply of goods and services increased by only 18 per cent. National Income at current prices increased by nearly 37 per cent and Income at constant prices increased by 18 per cent only. The results of the inflationary pressures generated in the economy are written large in these figures.

The task of keeping prices of foodgrains from rising in face of the inflationary pressure fell on the imports under P. L. 480. In the previous chapter it was indicated that production of cereals did not increase fast enough to meet adequately the rising demand stemming from increasing per capita real income, and imports mainly under P. L. 480 were used to meet the shortages. Perhaps the increase in cereal consumption was somewhat more than required

by increases in per capita real income. To the extent this happened, the lowering of the relative price of cereals would be a contributing factor. Specifically, it was seen that the increase in cereal supplies was mostly in the form of imported wheat. To the extent wheat and other cereals are not good substitutes in consumption, it is clear that the wheat prices had to be particularly lower to enable this large increase in wheat consumption.

It is, therefore, necessary to undertake a detailed examination of how far the large releases of imported wheat at a fixed price affected indigenous wheat price, and cereal prices generally. In this connection it would also be relevant to ascertain the basis for the fixation of the issue price of imported wheat at Rs. 14, its relation to the price of indigenous wheat, and to find out the manner in which the policy of subsidization affected different sections of the community. It is also desirable to examine if the other administrative measures played any effective part in the price policy of the government, or P. L. 480 imports came to be the only effective instrument. And, finally, attempt will be made to find out how far the government succeeded in stabilizing prices of cereals in different regions, and in reducing inter-regional differences, which was another objective in instituting such measures.

### *Trends in price of cereals*

Let us begin with a look at the trend in prices of various cereals and other commodities in India during the years of imports under P. L. 480. Table 6.1 gives the index of wholesale prices of cereals as well as the Economic Adviser's wholesale price index for all commodities (1952-53 = 100). It shows that the wholesale price index for all cereals declined sharply from the level of 1953-54 in the subsequent two years. By 1957-58 it had recovered to the old level, and since then had fluctuated at a little above that level, between 102 and 105.

Of course not all cereals exhibited this trend. The price of every cereal dropped steeply during the two years following 1953-54, and staged an equally sharp recovery after 1955-56. After this point the cereal prices exhibited considerable divergence. By 1957-58 the price of rice had recovered from the low levels of 1954-56, and was 5 per cent higher than in 1952-54. Since then, its index fluctuated between 102 and 105, till 1961-62.

The prices of 'other cereals' had a more remarkable increase. The level of the price of all these 'other cereals' was much higher than in the years before 1954-55. The index of *Bajra* price was 22 per cent higher in 1956-57 than in 1952-53 and increased steadily to 133 in 1961-62. *Jowar* price also was as high in 1956-57 as *Bajra*, but it fluctuated around that level in the subsequent years. The same was the case with maize. The prices of Barley and *Ragi*, despite year-to-year fluctuation, showed an upward trend. On the whole, the price of 'other cereals' as a group was about 20 per cent higher in the years since 1956-57 than in 1952-53. Moreover, except for *Bajra*, all of these fluctuated quite sharply from year to year.

Table 6.1 : Index number of wholesale prices of cereals and other commodities in India, 1951-62

( 1952-53 = 100 )

Year ( April-March )	Rice	Wheat	Jowar	Bajra	Maize	Barley	Ragi	Cereals	Food articles	All commodities
1951—52	104	94	97	99	127	122	95	102	111	118
1952—53	100	100	100	100	100	100	100	100	100	100
1953—54	100	93	100	103	102	95	107	98	107	105
1954—55	82	75	77	78	78	69	77	80	95	97
1955—56	78	72	67	84	76	67	62	76	87	92
1956—57	96	88	122	122	106	99	88	96	102	105
1957—58	105	88	114	126	112	95	105	101	106	108
1958—59	106	105	105	126	125	124	102	107	115	113
1959—60	105	96	119	126	115	103	113	104	119	117
1960—61	108	90	122	130	109	112	120	105	120	125
1961—62	105	91	113	133	110	128	119	102	120	125

Source : *Bulletins on Food Statistics*, Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India.

It is the price of wheat that showed a different trend. Its recovery from the low levels of 1954-56 was the smallest. The all-India price index of wheat was 88 in 1956-57 ( 1952-53 = 100 ) and it continued around that level, except for a sudden rise in 1958-59, which took another year to come down to the old level. Thus the index of wholesale price of wheat had been around 90 for four out of six years since 1956-57. In five out of these six years the price level had been below that in the pre-decontrol years.

In short, if it was the government's endeavour in India to stabilize the money price level of cereals since 1956-57, they appear to have been more successful in case of wheat ( except for the significant failure in 1958-59), followed by rice, and not quite successful in regard to the other cereals.

During these years, however, prices of all commodities except cereals and pulses had steadily risen. The Economic Adviser's General Wholesale Price Index (which includes cereals and pulses ) did not decline as much as cereal prices during 1954-56, since the slump was confined mainly to agricultural products, and foodgrains in particular. Since 1956-57, however, the General Wholesale Price Index steadily rose from 105 to 125, nearly 20 per cent, by 1961, while price of cereals remained rather steady. It is evident therefore that prices of most commodities, other than foodgrains, increased even more during these six years. Relative prices of cereals, i. e. cereal prices compared to the prices of other commodities in the country, were therefore low and continued to become lower during the period 1957-62, and particularly since 1959.

The National Income computation at current and constant prices implicitly provides a second set of general wholesale price index of commodities. This index shows a smaller increase in the wholesale prices during the years 1956-62 than the Economic Adviser's. But, compared with this also, the cereal prices were low ( Table 6.2 ).

From the point of view of consumers it would be more appropriate to compare trends in retail prices of cereals with the cost-of-living index. Such data unfortunately were scarce. For rural areas practically no data were available. Retail prices of cereals were available for a number of urban centres in the country for which cost-of-living indexes were being regularly computed. However, it appeared that the retail price of wheat in particular was heavily weighted in favour of the issue ( or control ) price of wheat as would be clear from a comparison of the retail and wholesale price indexes of wheat in Table 6.3. Even if the wholesale price index of wheat is chosen as the representative price for comparison, it is obvious that the cost of living had gone up continuously while wheat price had remained mostly unchanged since 1957. Therefore, relative to the cost of living, wheat prices continuously declined, especially since 1960.

INDEX

CHART - 6.1

INDEX NUMBERS OF WHOLESALE PRICES OF CEREALS

(ALL-INDIA)  
(1952-53 = 100)

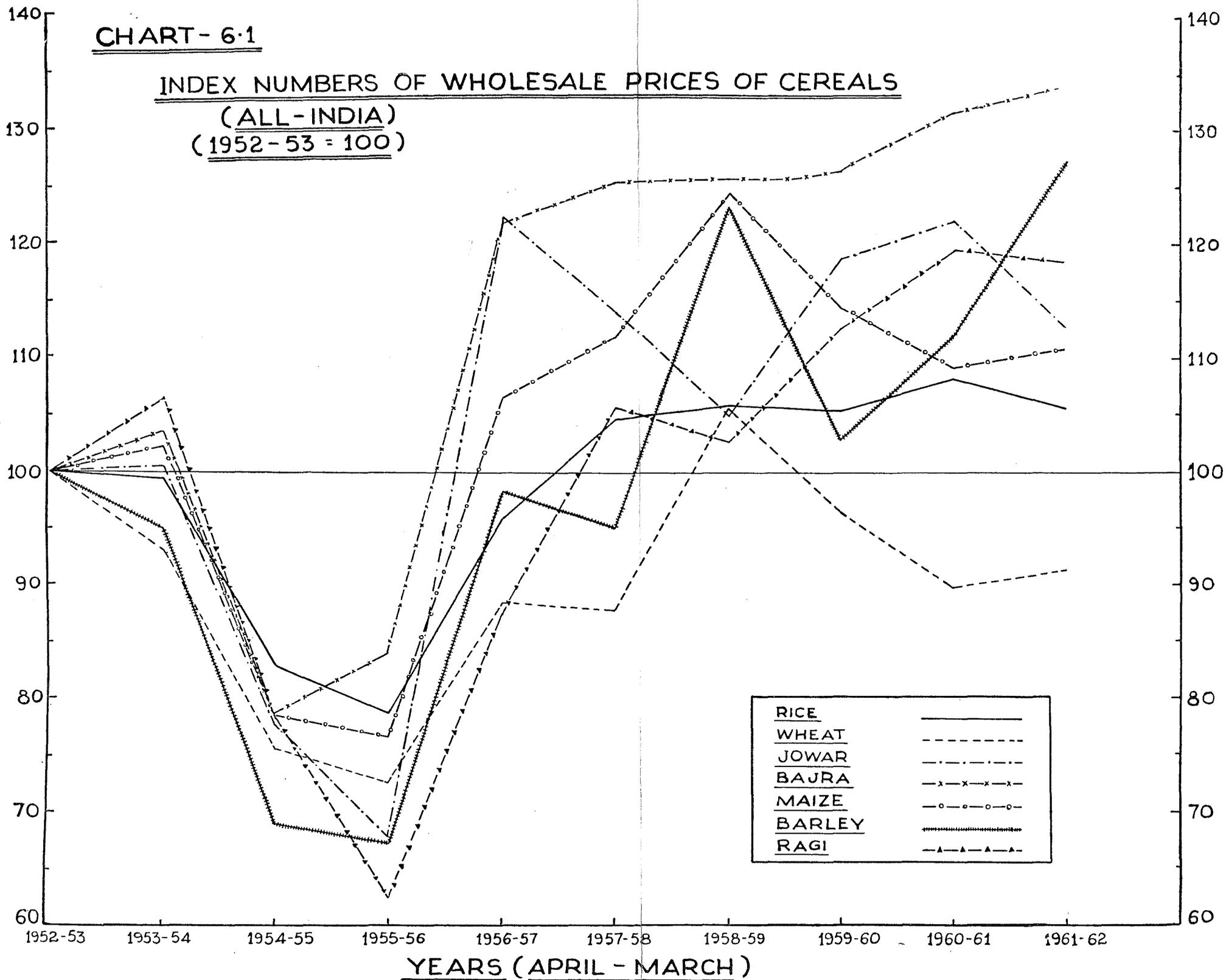


Table 6.2 : *Index of wheat price and alternate general price indexes*

Year ( April- March )	Wheat*	Economic Adviser's wholesale price index	National Income wholesale price index	Wheat price** as a relative of	
				(3) (5)	(4) (6)
1952-53	100 (100)	100	100	100	100
1953-54	92 (93)	105	101	88	91
1954-55	75 (75)	97	90	77	83
1955-56	71 (72)	92	92	77	78
1956-57	89 (88)	105	99	84	90
1957-58	85 (88)	108	101	79	85
1958-59	110 (105)	113	104	97	105
1959-60	96 (96)	117	105	82	91
1960-61	90 (90)	125	107	72	85
1961-62	90 (91)	125	108	72	83

\* The wheat price index is the average for the 14 of the 17 markets whose prices enter into the all-India index. Three centres, Calcutta, Madras and Bombay were excluded, because their prices were mainly control ( i. e. issue ) prices. The figures in brackets give the corresponding indexes inclusive of these centres ( reproduced from Table 6.1 ).

\*\* The wheat price used in cols. (5) and (6) is the average for the 14 markets, referred to above.

Table 6.3 : *Urban Consumer Price Index and the price of wheat, in India, 1954-62* (1954 = 100)

Year	Retail price index of wheat (a)	All-India wholesale price index of wheat	Average consumer price index (b)	All-India consumer price index for working classes (c)	Wholesale price of wheat rela- tive to consumer price index (3/5 × 100)
(1)	(2)	(3)	(4)	(5)	(6)
1954	100	100	100	100	100
1955	89	89	96	95	94
1956	99	109	106	104	105
1957	105	114	114	110	104
1958	109	122	117	115	106
1959	110	129	118	120	108
1960	100	115	120	123	93
1961	97	113	123	125	90
1962	99	116	129	129	90

Notes : (a) The average of the index of retail wheat prices in 15 towns of the country for which data were published in the *Indian Labour Gazette* ( later *Indian Labour Journal* ) since 1954,

(b) Average consumer price index published for 15 centres in the *Indian Labour Gazette*.

(c) Composite index published in the *Indian Labour Gazette*.

Of all the cereals, the price of wheat was relatively the lowest. It was low compared to the prices of other cereals as well as of all other commodities. Indeed, the relative price of wheat (relative to the General Price Level) in years 1960-62 was even lower than during the years 1954-56 and was showing a declining trend.

The wholesale price index of wheat presented in Table 6.1 includes quotations of mostly the issue price of wheat for some markets. Therefore a separate index of wheat price was prepared, excluding the quotations for such markets, like Bombay, Calcutta and Madras. This index of the open market wholesale price of wheat, presented in Table 6.2 is not very different from the official index. Therefore, whichever price index of wheat is chosen, it is quite clear that the relative wheat price during the period of P. L. 480 imports had been low.

Looked at from any point of view, whether of the trend in general price level in the country or in the urban cost of living, wheat prices remained low during the years of P. L. 480 imports.

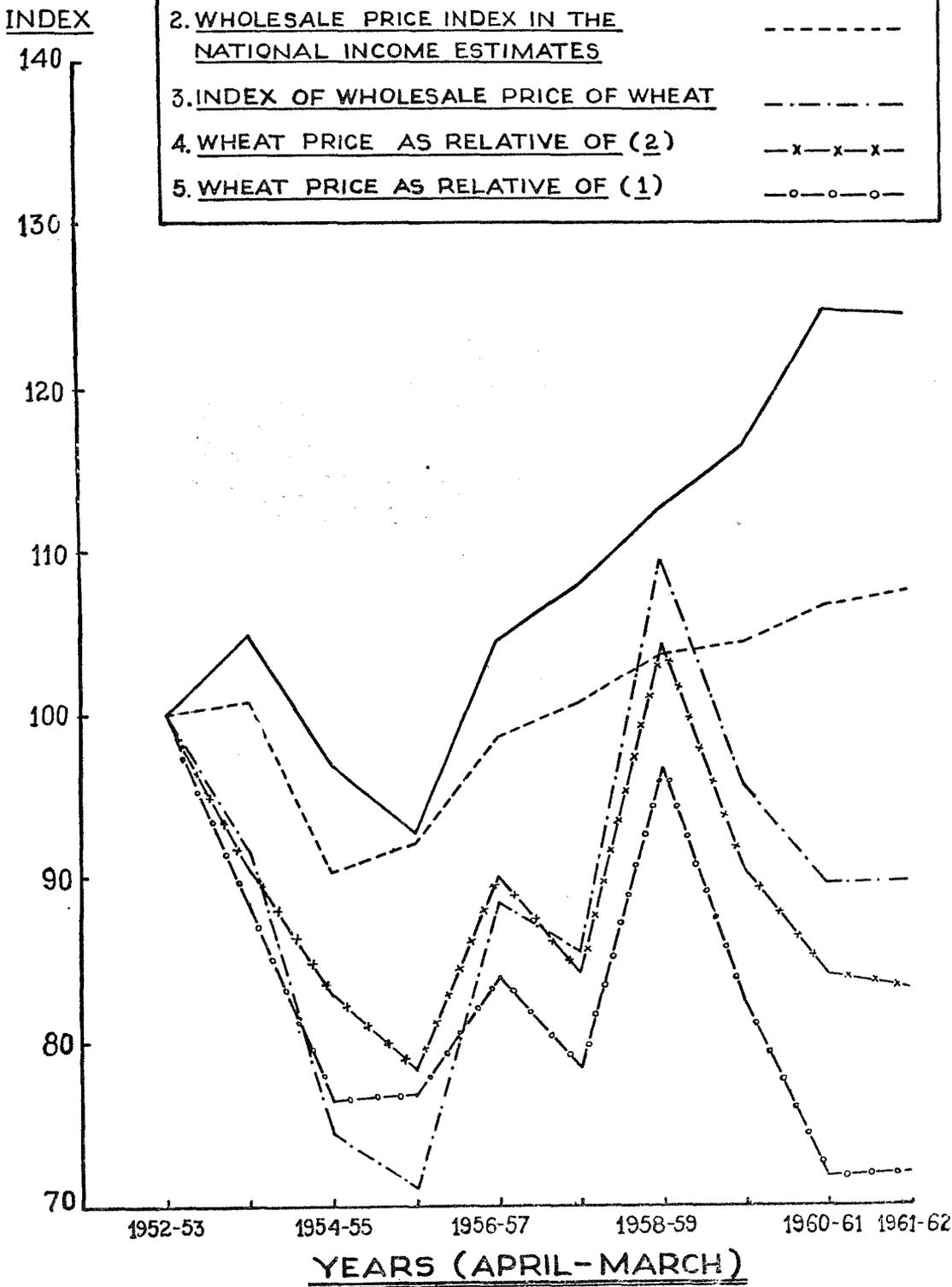
Detailed statistical analysis was undertaken at the all-India as well as the State level to determine the importance of various factors that influenced the price of wheat during the years of P. L. 480 imports, and specially the role of such imports. The various administrative measures that affected the market during these years, and the unsatisfactory nature of the data created considerable difficulties. The details of the various models and their results are presented in the Appendix to this chapter. Here it will be enough to present only the most relevant findings.

The analysis showed that the average quarterly relative price of wheat (relative to the General Price Index) during the years 1956-62, depended on : ( i ) the domestic production of wheat, ( ii ) the stock of wheat with the Government at the beginning of the quarter, ( iii ) the market arrivals of local wheat during each quarter, ( iv ) the real income of the people and ( v ) a linear trend factor that might represent, among other things, changes in tastes and preferences of consumers in favour of wheat. While there was a general upward pressure on price of wheat from rising population, the general price level and the rising income of the population and such other factors, it was held under check mainly by the stocks of wheat with the Government. Although internal production of wheat had a negative relation with price, the fact is : on a per capita basis the internal wheat production did not increase as much as imports. Indeed, the statistical analysis shows that absence of the large stocks of imported wheat with the government would have resulted in about 25 per cent higher relative price of wheat in 1961 and 1962, than was in fact the case. This was much less so in the early years of P. L. 480. The marked rise in price of wheat in 1958-59 caused by a steep fall in wheat production, could not be checked adequately because of the low stocks during crucial months. In more recent years, however, stocks of wheat increased considerably and this has depressed the relative price of wheat.

# CHART-6.2

## INDEX OF RELATIVE PRICE OF WHEAT

1. <u>ECONOMIC ADVISOR'S WHOLESALE PRICE INDEX</u>	—————
2. <u>WHOLESALE PRICE INDEX IN THE NATIONAL INCOME ESTIMATES</u>	- - - - -
3. <u>INDEX OF WHOLESALE PRICE OF WHEAT</u>	- . - . - . -
4. <u>WHEAT PRICE AS RELATIVE OF (2)</u>	- x - x - x -
5. <u>WHEAT PRICE AS RELATIVE OF (1)</u>	- o - o - o -



A question might arise here : Does the reference to stocks in the analysis imply that the mere maintenance of stocks of grain by Government can help keep the price low ? Now, the depressing effect of a very large stock of the commodity on its price cannot be denied; but it would not be of the order actually observed during the years under review. The fact of the matter is that during the years since 1956 the policy of the Government was to issue all the wheat demanded at a fixed price which was lower than the open market price, depending of course on the size of stocks of imported wheat. The stocks at any time, therefore, became a measure of the Government's ability to meet the demand in the market. The level of stocks compared to the prevailing ( or anticipated ) demand, was indication for the private trade to react appropriately in regard to the open market price of wheat.

Analysis of factors affecting the price of wheat in various States or regions was also carried out; but, for a variety of reasons, no satisfactory results were obtained for any State, except Uttar Pradesh.<sup>1</sup> An analysis on the basis of annual data for Uttar Pradesh for 10 years, from 1952-53 to 1961-62, showed that the price of wheat depended very significantly on the per capita availability of wheat ( including wheat issued from imports ) and per capita availability of ' other cereals '. It also turned out that in the absence of issues of imported wheat, the price of wheat in U. P. would have been anywhere between 15 and 40 per cent higher, depending on the particular year.

In case of the all-India picture, the statistical analysis did not reveal any significant relation of the supply of rice or other cereals with the price of wheat.<sup>2</sup> In case of U. P., however, supply of ' other cereals ' was a significant factor. This was so mainly because in U. P. ' other cereals ', chiefly millets, were inferior substitutes to wheat, while they were the major cereal in millet consuming areas of Central, Western and Southern India. Wheat would begin competing with ' other cereals ' in these areas only when the price of other cereals rises above that of wheat. That is why, supply of ' other cereals ' was not a significant factor in explaining wheat price at the all-India level.

While all these statistical analyses are not satisfactory in every sense, they broadly help to indicate the role played by the P. L. 480 imports and their disbursement, in keeping the relative price of wheat depressed.

In the effort to keep prices of cereals from rising the government put almost exclusive emphasis on release of imported grains. Because imported rice was very small in quantity, the government took recourse to other regulatory measures to hold its price line. In case of wheat, no such steps were taken; the reliance was entirely on P. L. 480 imports. A review of the working of the various administrative measures is presented below, to bring out their role in the price policy of the government.

<sup>1</sup> For details see the Appendix to this chapter.

<sup>2</sup> For details see the Appendix to this chapter.

*Administrative Measures*

(i) *Maximum Price Control* : An important weapon in the hands of the government was the provisions of the Essential Commodities Act of 1955 under which Government was given wide powers to fix prices of various commodities as and when it thought necessary.

Under Section 3 (2) (c) of this Act the Government was empowered to fix 'maximum control price' for wholesale transactions in any commodity. Fixation of such maximum price under this Act was, however, resorted to in the case of wheat only in U. P. and Delhi for about a year from May 1959. In the case of rice, recourse was taken to this provision in various States as early as 1957 and was more or less a continuous feature of the rice markets during the years under review.

From the way this order was implemented, its exact scope and purpose were not clear. The provisions of the Act seem to imply that whenever Government felt prices to be unduly rising, it could impose maximum price control and require all wholesale transactions to be at a price not above this level. But except for the Foodgrains Dealers' Licensing Orders, in conjunction with which these were to be enforced, there did not appear to have been any specific machinery for the enforcement of the maximum prices.

If the statutory maximum prices were to be the ceiling prices in the market, for the duration of the Orders, then the price quotations from individual markets should have reflected this. The difficulty in making such a comparison is that quite often the market price quotations relate to varieties which do not appear to feature in the maximum price control orders for the particular States. All the same, a detailed market by market, month by month comparison revealed that the statutory 'maximum prices' were not necessarily the maximum prices in the market; the market prices fluctuated above and below this level, irrespective of the order.<sup>3</sup>

If the maximum prices were, in fact, not the ceiling prices in the market, nor were they so intended, then what purpose did they serve? They were in fact prices for procurement by the State. The State made purchases of rice and wheat at these prices, wherever they were announced. Indeed, this was the chief reason why government imposed maximum price control orders chiefly for rice, and

<sup>3</sup> The Government, like anybody else, noted it, as will appear from the following quotations from the *Economic Survey of Indian Agriculture, 1959-60*, a review report published by the Ministry of Food and Agriculture. "Government procurement at controlled prices led to a considerable reduction in the flow of market arrivals of rice in 1958-59, despite a large increase in output in that year. But in 1959-60, with substantial improvement in production of cereals other than rice in the State, the disparity between open market and controlled prices of rice narrowed, and the tendency to hold over stocks decreased." (p. 47). In a reference to price of wheat in U. P. the survey says, "that the disparity between open market prices and statutory prices of wheat in the State narrowed." (p. 54). It is interesting to note that the reference is to *open market price*, and *not black market price*, in the context of statutory price fixation.

not for wheat any time during the years 1956–62. In regard to wheat the government depended almost entirely on the large imports under P. L. 480, and therefore did not seriously consider local procurement.

Another section, Section 3 ( 3A ) of the Essential Commodities Act enabled the government to indicate the price at which foodgrains were to be sold in a particular locality. This price was to be fixed with reference to the average market rate prevailing in the locality during the period of three months immediately preceding the date of the notification. The government could requisition stocks from traders at this price during this period. Obviously, the provision was meant to combat speculation and discourage hoarding of stocks. The duration of the order was three months at a time and could be extended for similar periods.

In the Appendix to this chapter ( See Table A 6.2 ) we present the periods for which this order was in force in various States in regard to wheat and rice. A detailed comparison of the average weekly prices in the markets during the three months preceding the announcement of the order, with the weekly and monthly prices during the subsequent period when the order was in force, revealed considerable non-correspondence between the two. In most instances, not only was the price relatively higher during the period Section 3 ( 3A ) was in force, than the earlier three months' average, but continued to rise. Indeed, whether the prices rose above the average or not depended more on the timing of the notification. If the order came at the end of a lean season ( when price would be high ), the average would be high, and would not be far exceeded in the subsequent period. If on the other hand, the order was promulgated immediately after the harvesting period, the prices continued to rise despite the notification. Thus the application of Section 3 ( 3A ) of the Essential Commodities Act did not appear to have had any effect on market prices, merely by its existence. In the course of discussions with officials it was suggested that the real purpose of the Section was not to requisition stocks, but to create a market sentiment. If the sentiment was to be reflected in the trend of prices, the purpose did not appear to have been served.

( ii ) *Selective Credit Control* : In order to prevent traders from hoarding at particular times, the Reserve Bank of India directed the scheduled Banks, from time to time, to restrict their advances to Trade against the stock of foodgrains. The effectiveness of such a measure in preventing speculative hoarding by traders would depend on a number of factors.

In the first place, it is well to remember that the restrictions on Bank credit advances to Trade played a limited role, in view of the relatively small place of scheduled banks in credit supply to trade against foodgrains. " The potentialities of selective credit control are severely limited, as a major part of the stocks held by big and small traders is financed out of their own resources, or non-institutional credit over which the Reserve Bank of India has no control. ... From the figure of advances against foodgrains, it is clear that even at the height of these advances hardly anything more than 2 million tons were

hypothecated with the banks. . . . When credit squeeze is applicable to selected commodities, it is possible for the traders to evade it by utilizing on foodgrains the credit obtained for other purposes."<sup>4</sup>

Secondly, the Reserve Bank exempted the Warehousing Corporations, co-operative marketing and processing societies, as a matter of policy from the purview of credit control with a view to leaving increasing demand for production credit unaffected. But since, in fact, the warehouses were being used mainly by traders, and not cultivators, the restrictions meant for trade were circumscribed to that extent.

Within these limits the credit controls did reduce advances against grains somewhat. For example, they amounted to Rs. 26 crores at the end of May 1958, as against Rs. 40 crores a year earlier. In 1959, the peak advances were nearly 50 per cent below the permitted level. But simultaneously, there was evidence of diversion by traders of credit granted for other commodities to foodgrains.

From the foregoing it is seen that while selective credit control brought down the advances of scheduled banks against grains, their role in arresting the rise in prices was only limited and small; their success "depends largely on the basic supply and demand position of the commodities concerned as well as the general climate of credit or liquidity situation. . . . On the whole, the role of selective credit controls in their impact on prices might be regarded as of marginal significance in Indian conditions; in the main they serve to restrain to some extent demand originating from bank credit."<sup>5</sup>

(iii) *Regulation of Trade* : The most direct tool to regulate trade was the Foodgrains Licensing Orders under which State Governments<sup>6</sup> were empowered to issue licences to all wholesale dealers in foodgrains. The dealers were thereby required to submit fortnightly statements of purchases, sales and stocks of various foodgrains to the State authority. This was expected to keep hoarding and speculation in check. The Government was empowered to check the stocks and accounts of traders for purposes of verification.

It is doubtful how far this measure would have proved a real check without necessary arrangements for supervision. In fact, returns were not regularly submitted, they were rarely checked, nor properly compiled, and naturally not made much use of. From time to time the Government of India called upon State Governments to tighten this administration, but not much improvement appeared to have resulted. From the very nature of the measure and its unsatisfactory implementation it is difficult to see if much useful purpose was served by it.

Thus we find that the various administrative measures taken by the Govern-

<sup>4</sup> "Selective Credit Control on Foodgrains", *Agricultural Situation in India*, June 1958.

<sup>5</sup> *Trend and Progress of Banking in India*, 1959, Reserve Bank of India.

<sup>6</sup> Powers were conferred by Central Government on State Governments to introduce licensing controls under the Essential Commodities Act in July 1957. The State Governments issued such orders at various dates in the subsequent period.

ment had little, if any, effect on the price of the cereals. Some by their very nature could have only a marginal impact. Others were not properly implemented. The Government appeared reluctant to use the power it had acquired, except to the minimum extent thought absolutely necessary. The main reliance was on imports.

The only administrative measure which did have immediate impact was the restrictions on zonal movement of wheat and rice.

(iv) *Movement Restrictions* : The formation of the three wheat zones in June 1957 (described in Chapter IV) led to a rise in the price of wheat in the Punjab, which was normally a surplus region. In U. P. available price quotations showed that in two markets the prices rose and in two others they declined. The Western Zone price data were not very satisfactory, and did not indicate any significant change.

Generally, the effect of the initial zoning arrangements was not quick and perceptible. The effect of the subsequent adjustments in movement control orders are more clear.

The lifting of the cordon around Bombay city in April 1958 resulted in a sudden rise in the price of wheat in the major markets of Madhya Pradesh which supply wheat to Bombay, and a decline in the price of indigenous wheat in Bombay City. The average wholesale prices per maund of wheat in the Sagar and Bhopal markets of M. P. and in Bombay, for the two relevant quarters of 1958 are given below :

	<i>Sagar</i>	<i>Bhopal</i>	<i>Bombay</i>
January-March 1958	13.08	13.08	30.00
April-June 1958	15.87	15.99	17.47

The effect of the splitting of the western wheat zone in February 1959 was less clear. In Madhya Pradesh which came to be isolated from Maharashtra and Gujarat this distinctly led to a decline in price : from around Rs. 26 per maund in January 1959, it dropped to between Rs. 18 and Rs. 20.5 by the end of February. A part of the reason no doubt was the improved crop prospect for the coming season. The Bombay prices, however, did not show a rise, possibly because the prices that year had been already quite high. Prices of wheat in Bombay State (Maharashtra and Gujarat) were high in 1959-60 partly because of relatively poor crop in that State, but partly also because of zonal restrictions on movement of wheat from Madhya Pradesh to Bombay. The annual average prices for the three States are given below :

(Average Rs. per maund)

<i>Year</i> (April - March)	<i>Maharashtra</i>	<i>Gujarat</i>	<i>Madhya Pradesh</i>
1958-59	22.98	19.75	20.66
1959-60	24.38	19.36	15.89

Source : *Economic Survey of Indian Agriculture, 1959-60*, Ministry of Food and Agriculture.

The resumption of the zonal union of Madhya Pradesh, Maharashtra and Gujarat in November 1960 was reflected in a sudden decline in wheat price in Bombay ( from Rs. 21.28 per maund in October 1960 to Rs. 17.55 and Rs. 16.60 in November and December of the same year ). There was a slow rise in M. P. wheat price from Rs. 12.92 in November to Rs. 15.21 in March 1961.

Similarly, the formation of rice zones in July 1957 saw a decline in rice price in Kerala and corresponding increase in Andhra and Madras which were Kerala's rice supply regions.

The ban on foodgrains export from U. P. in August 1958, saw a decline in rice price in major markets of U. P., as revealed by the following table :

( In Rs. per maund )

Quarter 1958	Quarterly average price of rice in			
	Nowgarh	Kanpur	Saharanpur	Varanashi
June to August	25.41	25.98	25.33	25.50
September to November	20.75	20.96	21.50	23.08

The reconstituted rice zone of Madhya Pradesh, Maharashtra and Gujarat in November 1960 saw a relative rise in rice price in M. P. and a relative fall in Maharashtra and Gujarat.

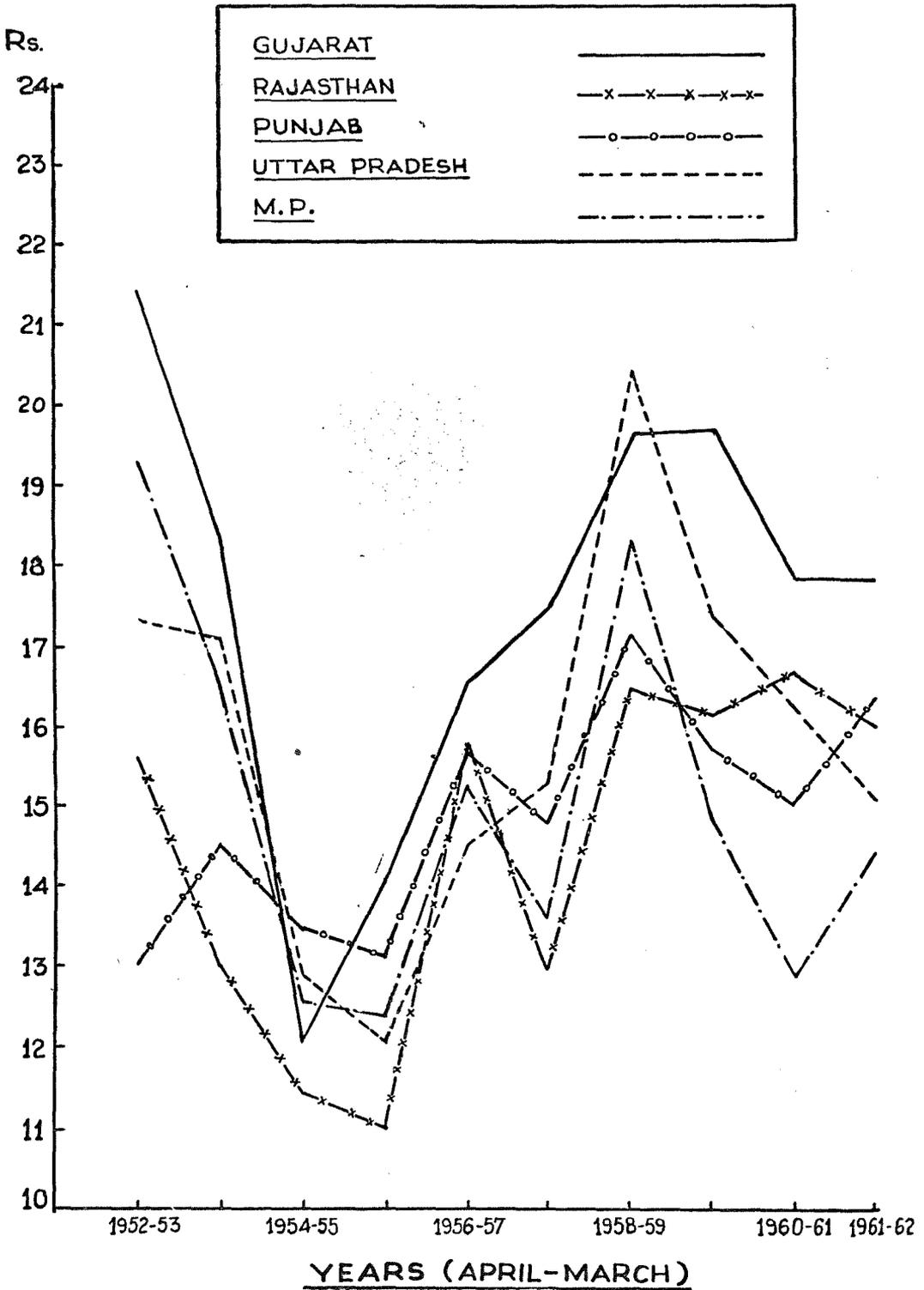
The formation of the Eastern Rice Zone comprising Orissa and West Bengal in December 1959, saw a sudden rise in the price of rice in Orissa, but there was no change in rice price in West Bengal.

Thus zonal restrictions lowered prices in surplus areas and increased them in deficit areas ( or vice versa, if such restrictions were relaxed ). This was generally true despite the fact that the timing of these orders often coincided with the harvesting season and therefore the effects of the two forces could not be easily separated.

The zonal movement restrictions were effective in the limited sense of preventing deficit markets from affecting the prices in producing areas seriously. The main purpose of the zonal restriction, however, was to separate the markets in order to meet the deficits from government stocks ( or regulate private imports ), and procure the surplus grain in the producing areas. This process would have helped in the stabilization of prices in the different zones, and ultimately in reduction of regional price differentials. If the movement restrictions were not to be followed by such steps, it was inevitable that other undesirable consequences would follow. The government, in fact, took some measures to procure rice in surplus areas, but no serious efforts were made in regard to wheat. No measures were taken to prevent wheat prices in surplus producing regions from declining under pressure of supplies, as a result of the zonal arrangements. Consequently, the regional variations in wheat prices were

# CHART-6.3

## AVERAGE ANNUAL PRICE OF WHEAT IN DIFFERENT STATES



larger during the years 1957-62, than in the earlier three years. This is brought out in Table 6.4 giving the coefficients of variation among the annual average prices of 14 wholesale markets, as well as seven major wheat producing States in the country. A year to year account of the regional price trends<sup>7</sup> is presented below to bring out the factors responsible for this.

Table 6.4 : *Coefficient of variation of wheat prices*

Year (April-March)	Coefficient of variation of the average annual prices of	
	14 Markets (a)	7 States (b)
1954-55	6.0	7.3
1955-56	7.1	6.9
1956-57	4.1	3.2
1957-58	9.3	9.4
1958-59	9.8	10.1
1959-60	11.1	10.4
1960-61	12.7	12.0
1961-62	9.5	8.8

Notes : (a) The 14 markets are the markets for which wholesale price quotations are published in the *Bulletin on Food Statistics*, excluding Bombay, Calcutta and Madras.

(b) The States are Bihar, Gujarat, M. P., Punjab, U. P., Delhi and Rajasthan. The State averages are the averages of the markets in these States for which wholesale prices are published in the *Bulletin on Food Statistics*.

During the three years of depression and recovery following 1953-54 the prices of wheat amongst different States moved together and inter-State differences were small. The smallest variation was noticed in the year 1956-57, which was a year of recovery. Thereafter, the regional prices not only diverged, but also sometimes showed opposite tendencies.

It has been generally agreed that the sharp decline in cereal prices during 1954-56 was not normal and the prices could not have been expected to stabilize at that low level. The recovery in 1956-57 was therefore in large measure a restoration of normalcy. In the case of wheat in particular, the wholesale price in 1956-57 exceeded the 1953-54 level in no State, except Punjab and Rajasthan. In U. P. and Madhya Pradesh they were considerably below the 1953-54 level.

The wheat crop in 1956-57 had been better than in the two previous years. But since the wholesale price of wheat in April and May of 1957 did not register the usual seasonal decline, a possible price rise was feared and various measures like large scale issue of imported wheat, restrictions on movement, etc. were taken in the course of subsequent six months to hold the price line. The result

<sup>7</sup> For annual average prices of wheat in the various markets and States, see Tables A 6.3 and A6.4 in the Appendix to this chapter.

was a widening of the price differences among States. While the wholesale price in U. P. registered a small rise during this year, the prices in Madhya Pradesh, Rajasthan and Punjab, registered decline, particularly at that time of the year ( June to February ) when a normal seasonal rise in wholesale price would be expected. This fall in price was, however, freely allowed. No effort was made to prevent this decline despite the significant declines in some States,<sup>8</sup> nor was there any effort to procure wheat in these States for meeting shortages in other areas that were being met through imported grains.

The year 1958-59 was a year of shortfall in wheat production in all States. Prices rose and the regional disparities increased, thanks to varying regional shortages and zonal movement restrictions. The stabilization measures required addition to supplies, and government issued during this year wheat from its imported stocks equal to more than 35 per cent of the domestic wheat production. All States shared in this issue of wheat. The prices rose despite these large issues, partly due to the low stocks and consequently declining issues in the latter half of 1958. So difficult was the situation that Government signed two agreements under P. L. 480 in course of three months for additional wheat imports. If an effort had been made in the previous year to prevent the continuous decline in wheat price in certain major States, some stocks from internal production could have been built that would have helped meet the difficult situation in 1958-59.

Price of wheat declined in 1959-60 in all States because of improved production. In some of the major producing States, like Punjab and Madhya Pradesh, it fell to the 1956-57 level. In Uttar Pradesh, on the other hand, production did not reach the 1957-58 level, there was a relative shortfall and prices did not decline very much. The State Government tried to regulate wholesale prices by fixing maximum prices under the Foodgrains Control Order, and by purchasing some quantities of wheat at that price from the market. But these quantities were not very large, nor could the open market prices be contained within the statutory limit. In M. P. and Punjab the government began to purchase wheat in the market at specified prices. It is interesting to note that while price of wheat in M. P. had declined below the 1956-57 level, the government fixed an even lower price for purchase in the open market. It is therefore surprising that the government could purchase wheat amounting to over 2 per cent of that year's production, in the market at the price. In Punjab also government did make purchases in the open market. But the mechanism was to buy in major wholesale markets at market price. Consequently the government could purchase more than 6 per cent of the year's production in the State. In both Punjab and M. P. these purchases were not part of a price stabilization measure,

<sup>8</sup> In Madhya Pradesh, for example, the price of coarse wheat declined to around Rs. 12 per maund in Sagar, around Rs. 13 in Bhopal and Rs. 14 in Rewa, all much below the 1953-54 level. The same was the case in Rajasthan where price of wheat dropped below Rs. 12 per maund in Kotah towards the end of 1957.

but were measures in State Trading, a short-lived experiment during the period May 1959 to August 1960. The quantum of wheat purchased was mainly sold in the State itself through fair price shops, a small part was exported, and only the remainder was stocked for the following year.

The 1959-60 crop was even better and the prices declined still further. Consequently during the first 3-4 months of the year 1960-61 the Governments in Punjab and M. P. could make larger purchases of wheat under similar arrangements as in the previous year. The prices in some markets in M. P. dropped below the price at which government was supposed to make purchases. While this enabled larger purchases by the governments, it did not appear to have helped keep up the price. These purchase operations abruptly ceased around August 1960 when the wheat price was declining. Thereafter price in these markets dropped still further,<sup>9</sup> but no attempt was made either to support these prices or to build up a stock of indigenous wheat. The same was the case in U. P. where despite increased production issue of sizeable quantity of wheat continued, and the prices came down. The price declined in all States, much more in some like Madhya Pradesh, than in others. All these years restrictions had prevented free movement of wheat from one State to another and consequently in surplus States, like Madhya Pradesh, prices declined more under pressure of increased production. Government while creating the zones did not take steps to stabilize prices in normally surplus States, and, in the process, to build stock of local wheat to meet the requirements of deficit areas and years.

In view of the improved production and stock position of wheat, all zonal movement restrictions were removed in April 1961. The range of inter-State price variations narrowed. The policy of the government thereafter remained one of issuing any quantity of imported wheat to flour mills as well as to consumers through fair price shops at Rs. 14 per maund. During these six years, if the policy of the government was to stabilize price of wheat, it appears that this was observed only partly in that steps were taken to check rising prices, but any marked decline in prices, resulting from zonal arrangements, was not seriously combated. The price of wheat in M. P. which in 1960-61 fell to the low levels of 1954-56 is a glaring instance of this. Both the objectives, namely, price stabilization and building up of stocks for meeting internal demand from internal production as far as possible, could have been achieved in such situations, but no serious effort was made in this direction.

The above review shows that during the years of imports under P. L. 480 the chief concern of government policy was to keep the price of cereals from rising. It was not considered necessary to provide effective support to prices, particularly when they were under downward pressure as a result of certain policies of the government. In face of the continuous rise in the general price

<sup>9</sup> In Bhopal, Rewa and Sagar wheat price came down to between Rs. 11.50 and Rs. 12.00 during the latter half of 1960, while the Government purchases at Rs. 13.00 were suspended from August.

level the government tried to hold the price line of cereals, particularly of wheat at a fixed rate. Since the government issued any quantity of imported wheat at Rs. 14 per maund, the all-India average price of wheat tended not to deviate far from this level.

It is not quite clear how and why the Government of India fixed the wholesale issue price of imported wheat at Rs. 14 per maund, and maintained it through all these years. This price was not affected by changes in internal production. Nor does it appear that it was determined on the basis of cost of imports and distribution. Table 6.5 gives the cost of imported wheat and rice, the selling price and the subsidy borne by the government.

In order to see the amount of subsidy in a more realistic perspective, the total picture of the transactions on P. L. 480 account in respect of foodgrains is presented below :

<i>Period : 1956-57 to 1961-62</i>	<i>Rs. Crores</i>
( i ) Cost of imported foodgrains + 50 per cent cost of ocean transport together paid to the U. S. Embassy	527.47
( ii ) 50 per cent cost of ocean transport borne by the Government of India.	39.70
(iii) Total of ( i ) and ( ii )	567.17
(iv) Incidental costs in India	91.4
( v ) Total expenditure on foodgrain imports (iii) and (iv)	658.23
(vi) Sale proceeds	605.66
(vii) Subsidy borne by Government of India (v) — (vi)	52.57

*Source :* Based on data supplied by Ministry of Food and Agriculture, Government of India.

The Government of India on the whole spent Rs. 52.57 crores more in the process of distribution of P. L. 480 grains, than it recovered in the form of sale proceeds from the public.

Table 6.5 : *Subsidy borne by Government of India on P. L. 480 grains*

	<i>Wheat</i>					
	<i>( In Rupees )</i>					
	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
( i ) Economic cost ( per maund )	16.97	16.59	14.51	14.04	14.68	15.17
( ii ) Issue price ( per maund )	14.00	14.00	14.00	14.00	14.00	14.00
( iii ) Subsidy ( per maund )	2.97	2.59	0.51	0.04	0.68	1.17
( iv ) Quantity issued ( ' 000 Metric tonnes )	581.8	2614.5	2469.8	2807.0	4113.3	2282.3
( v ) Total subsidy ( Rs. crores )	4.33	18.14	3.37	0.30	7.49	7.17

*Rice (Long Grain)*

(i) Economic cost (per maund)	31.69	31.02	..	23.68	24.67	26.10
(ii) Issue price (per maund)	20.00	20.00	..	20.00	22.00	22.00
(iii) Subsidy (per maund)	11.69	11.02	..	3.86	2.67	4.10
(iv) Quantity issued ( ' 000 Metric tonnes )	64.8	132.0	..	9.3	325.6	127.8
(v) Total subsidy (Rs. crores)	2.03	3.90	..	0.09	2.33	1.40

Source : Data supplied by Government of India.

The total subsidies on all imported foodgrains during these six years amounted to Rs. 85.62 crores. The extent of subsidy was about 9 per cent of the economic cost of the grains to the Government.

The extent of subsidy therefore does not appear to have been very large.<sup>10</sup> Nor was the subsidy necessary to price imported wheat lower than indigenous wheat in the major wheat markets in non-producing areas. For example, the following table shows that in the City of Bombay the price of indigenous wheat in all the four years since 1958-59 was higher than the economic cost of imported wheat to the Government.

(Rupees per maund)

	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
1. Issue price of wheat	14.00	14.00	14.00	14.00	14.00	14.00
2. Economic cost of P. L. 480 wheat	16.97	16.59	14.51	14.04	14.68	15.17
3. Indigenous wheat price at Bombay	N. A.	N. A.	22.37	24.85	19.85	20.09

N. A.—Not available.

The question therefore is not one of costs, but of the price policy of the government. It does not appear that this low pricing of imported wheat was motivated by any consideration of subsidizing the low income groups.<sup>11</sup> It is true that the imported wheat was purchased from the fair price shops mainly by the low income groups, since in the consumer's scale of preference this wheat was inferior to local wheat. But the more important and vastly growing use of imported wheat was by roller flour mills, whose products in various

<sup>10</sup> It may also be argued that the subsidy on P. L. 480 imports was also not real, since a large part of the sale proceeds of P. L. 480 imports returned to the Government of India as grants. While such an approach to the cost of P. L. 480 grain may be interesting from the U. S. point of view, for the Indian Food Ministry, it was real cost.

<sup>11</sup> Some sort of price differential on the basis of income, for issued grains, was one of the recommendations of the Foodgrains Enquiry Committee. No such steps have been taken by the government.

processed forms were consumed chiefly by the middle and higher income groups in urban areas. In effect the low pricing of imported foodgrains sold to flour mills subsidized these income groups.

In this connection it is interesting to note that while the wholesale price of wheat was fixed at Rs. 14, the retail price was fixed a little higher in rural than in urban areas. If subsidy for low income groups were a deliberate policy, this would not have been the case.

No effort was made to charge different prices for imported wheat in different regions. Nor was any attempt made to have differential pricing for different qualities of imported wheat. It is said that while the consumer generally grades P. L. 480 wheat lower, there is a preference for imported white wheat. This sometimes led to the accumulation of stocks of red wheat with the fair price shops, and consequent requirement by the government that buyers could take only a mixture of the two, and not only one variety. The roller flour mills were also obliged to purchase the two varieties in fixed ratio.

Thus, the government's sole objective was to keep the general wheat price level from rising, and in the case of wheat it depended entirely on the P. L. 480 imports in implementing such a policy. As we have seen in this chapter and the previous one, without any P. L. 480 imports and issues, the foodgrains price situation could have been very difficult. But the indiscriminate use of P. L. 480 grains at very low prices, resulted in the subsidization of increased consumption by large urban groups, which could as well have done without the subsidy. This becomes more important when one remembers that in this process all the imported wheat was consumed. Indeed, as we saw, the effort to keep the price from rising above the 1956 level required not only whatever increases in production took place during the years, but also all the imports. In the context of this price policy, the P. L. 480 supplies have become a normal part of total consumption. Consequently, if in any year domestic production does not increase or declines, much more than the current level of issues would be necessary to hold the price line. This is what happened in 1958-59, when despite peak level of issue of wheat, the price rose.<sup>12</sup> And this could happen anytime in future. Indeed, if this price policy is to continue, India would have to be increasingly dependent on P. L. 480 supplies for a long time to come, unless there is a real revolutionary change in the domestic production of cereals.

It is, however, doubtful if the current price policy that prevents the price of a particular commodity from rising at all when all other prices are steadily increasing, can be conducive to such a revolution. In the next chapter, therefore, attention will be paid to the effects of the P. L. 480 imports on production of cereals in India, and also on the income of the farmers.

<sup>12</sup> Of course, in view of the fact that imported wheat is an inferior substitute to local wheat, rise in price of wheat following fall in domestic production cannot be entirely prevented by larger issues, unless the issue price is further reduced.

## APPENDIX TO CHAPTER VI

### *Factors affecting price of wheat*

(A) All-India — A list of the possible factors influencing the consumption of any cereal in India would include the following : (a) total domestic production of the commodity and its substitutes, (b) total stocks of the commodity with the Government and with the trade, (c) the quantum sold by the Government from its stocks and the price at which such sales have taken place, (d) increase in population, (e) changes in National Income, (f) changes in the general price level, (g) other factors like change in taste and preference of the consumers. Besides these, during recent years in India there have been various administrative restrictions in the foodgrains market, noted earlier. All these factors have been in operation simultaneously during the period under study. It would be difficult to disentangle the effects of these various forces on the prices of individual cereals. The statistical analysis was, therefore, carried out, without trying to take into account the effects of the administrative measures. The analysis was done chiefly for wheat, the most important cereal imported under P. L. 480.

Since wheat is harvested just once in the year and at about the same time, March-April, all over the country, it would be proper to consider supply of wheat as influencing the price of wheat in the post-harvest year. Moreover, since wheat supply was augmented through large issues from imported stocks during the years since 1956-57, it was also necessary to consider this additional supply to be influencing the price. The following relationship was, therefore, postulated :

$$P_w = f(C_w, C_r, C_o, Y) \quad (1)$$

where  $P_w$  = the annual wholesale price of wheat deflated by the Wholesale Price Index (WPI)

$C_w$  = Per capita consumption or availability of wheat (as defined in the previous chapter)

$C_r$  = Per capita availability of rice

$C_o$  = Per capita availability of other cereals

and  $Y$  = Per capita income at current prices deflated by the WPI.

A similar relation, except that the independent variables were in total, and not in per capita terms, and with population as an additional variable, was also postulated.

A linear regression was run with annual observations for 11 years, 1951-52 to 1961-62, but the per capita (as well as the aggregate) availability of wheat turned out to be an insignificant factor, in explaining the price of wheat.

Nor did separation of internally produced wheat and imported wheat, in the above regressions, improve matters. It turned out that while production of wheat had a negative coefficient, the issue of wheat was positively related to price. This is as should be expected and the point has been demonstrated in the Appendix to the previous chapter. As it is presumed that issue of wheat is not merely influenced by the price, but must also be influencing open market price, various lagged relations between price of wheat and issue of wheat were tried out with monthly issue and price data, but the relation every time turned out to be positive.

One way of getting round this difficulty was to consider the stocks with the Government, from which the issues took place, instead of the issues themselves, as influencing price. The Government had been issuing wheat at a fixed price during all the years to keep the open market price of wheat within limits. In the context of such a policy, it may be argued, the market reacted to the Government's ability at any time to meet the growing demand, through an assessment of the stocks at the disposal of the Government. Market price would accordingly be adjusted and issues will follow this price level. The longer the unit of time for which price quantity relations are sought to be established, the stocks at a point of time will become less important, since they would vary considerably on account of additions through continuous imports during this period. On the other hand, the shorter the unit of time, the greater the relevance of stocks at a point of time.

The following relation was, therefore, postulated :

$$P'_w = f' (Q_w, S_w, M, Y') \quad (2)$$

where  $P'_w$  = Quarterly average wholesale price of wheat ( open market ),  
undeflated.

$Q_w$  = Quarterly supply from production of wheat. This was arrived at by dividing the total estimated wheat production by 4 and thus estimating equal supply from production each quarter. No further refinement of this variable was possible.

$S_w$  = Stock of wheat with the Government at the beginning of each quarter.

$M$  = Index of market arrivals of wheat. Since the price data to be explained were quarterly, it was obvious that a seasonal element would enter into the price. The quantity of wheat brought to the market at any time would be one of the factors affecting the price. However, no detailed market arrival data were available for the years under study. Therefore an average index was arrived at on the basis of whatever annual data were available in the Bulletins on Food Statistics. Of the total arrivals in the market during any calendar year, it was estimated, 18, 48, 18, and 16 per cent were marketed in the 1st, 2nd, 3rd and 4th quarters, respectively.

$Y'$  = The total adjusted National Income<sup>13</sup> at current prices. Quarterly estimates were arrived at by dividing the total National Income by 4, since no better estimates were available. The national income series used was a modified one, and the modification is explained in the footnote. The quarters were January-March, etc.

In a variation of the above model, a linear trend factor was introduced in place of  $Y'$ .

$$P'_w = f'' (Q_w, S_w, M, T) \quad (3)$$

The price was undeflated, but so was income. The quantities were all in aggregate and not per capita terms. Since stocks data were available only since 1956, the regression analysis was carried out for the years 1956-62 (28 observations). The results are summarised below :

Equ. No.	Coefficients of					R <sup>2</sup>
	Q <sub>w</sub>	S <sub>w</sub>	M	Y'	T	
(2)	-.046 (.007)	-.013 (.004)	-.283 (.070)	4.42 (0.70)	..	.73
(3)	-.035 (.005)	-.014 (.003)	-.160 (.060)	..	2.025 (.272)	.78

Note : (1) Figures in brackets are standard errors.

(2) Coefficient for M in (3) is significant at 5 per cent level; all others at 1 per cent level

The trend factor in equation (3) may be said to stand for income, but also for some other factors that have a similar trend, like population, general price level, etc.

<sup>13</sup> The official series of National Income may be considered unsatisfactory for purposes of consumption studies. One of the defects is the estimation of income arising out of agriculture. The National Income is estimated for the Indian Fiscal year — April to March. Agricultural crops get harvested at two different times mainly, the *Kharif* from October to December and the *Rabi* in March and April. For National income purposes, all *Kharif* and *Rabi* crops of the agricultural year (July to June) are assumed to have been harvested by end of March, and therefore are included in the National Income estimates for the financial year ending that March. Thus, the National Income estimates for, say, 1960-61, will include the value of all agricultural products during the agricultural year 1960-61. It should be clear that the *Rabi* crops harvested during this year would really be available for expenditure in the subsequent fiscal year i. e. 1961-62. Indeed, to the extent *Kharif* crops are harvested around December, a part of it, and possibly a large part, would be available for expenditure in the subsequent financial year. Since, however, a division of the *Rabi*, *Kharif* estimates for this purpose was not possible, we have treated income from agriculture with one year's lag for estimating total National Income in any year. The National Income in 1960-61 is equal to income originating in the non-agricultural sector in 1960-61, plus income in agricultural sector in 1959-60. While this is a crude adjustment, we presume, for our purpose, this is an improvement on the available series. The quarterly data based on this adjusted series are presented in Table A 6.1.

The important point is that both production and stocks have significant and negative relation with the price of wheat.

A similar analysis was conducted with the relevant variables in terms of per capita units, and the price and income series deflated by the corresponding general wholesale price index of the Economic Adviser, in order to take out from both the effects of the general price rise. The equation was as follows :

$$P_w = g ( Q'_w, S'_w, M, Y, T ) \quad (4)$$

where  $P_w$  = Quarterly price index of wheat deflated by WPI.

$Q'_w$  = per capita supply from production of wheat, quarterly.

$S'_w$  = per capita stocks of wheat at the beginning of each quarter with the Government.

$M$  = Quarterly index of market arrivals.

$Y$  = per capita income, deflated by WPI, quarterly.

$T$  = linear trend.

Number of observations were 29, from January-March 1956 to January-March 1963.

The resulting equation was,

$$P_w = 96.33 - 15.79 Q'_w - 5.47 S'_w - .22 M + 1.34 Y + .58T$$

(2.26)      (1.27)      (.06)      (.45)      (.22)

$$R^2 = .84$$

Only the coefficient of trend was significant at 5% level; all others at 1 per cent. The significance of trend, after taking changes in population and the general price level, as well as income, into account, could be due to a variety of circumstances, real and statistical, among which the changing taste and preference of people for wheat, if any, might be one.

The data used in equations (2), (3) and (4) are presented in Table A6.1.

(B) Regional—Similar analysis of factors affecting price of wheat was carried out on a regional basis. It was not merely of interest in itself, but because of the various administrative restrictions on the market on all-India level, it was thought the regional estimates might give better results. Besides, trends in wheat consumption may be different in different regions, and the influencing factors may not be the same. The model followed was generally that of equation (1) above. Only, the availability of various substitutes, like rice and other cereals was included among the independent variables, while regional income estimates were excluded because they were not available for most States.

The analysis was carried out for U.P., Punjab region (including Punjab, Delhi and Himachal Pradesh), Rajasthan, Madhya Pradesh and Bihar. But only the result for U. P. was satisfactory and is recorded below. The rest defied all efforts at yielding significant statistical results. The model for U. P. was as follows :

$$Y_1 = g' ( x_1, x_2 ) \quad (5)$$

where  $Y_1$  = Annual wholesale price of wheat in U. P. deflated by the WPI for India.

$x_1$  = Per capita availability of wheat in U. P.

$x_2$  = Per capita availability of other cereals in U. P.

The data related to annual observations (April-March year), and were for only 10 years, 1952-53 to 1961-62.

The result was as follows :

The regression coefficients for  $X_1$  and  $X_2$  were  $-1.475$  and  $-0.551$  and their standard errors (0.31) and (0.18) respectively. The  $R^2$  was 0.765.

Availability of wheat, including the quantum issued by the Government from imported stocks, and the availability of 'other cereals' (excluding rice), were important in determining the price of wheat in U. P.

The reasons for the failure of similar analysis for the other wheat growing and consuming States could be many and varied. One of the main difficulties, we believe, was with the estimates of per capita availability of wheat. It has been noted in the Appendix to Chapter V that one of the major difficulties in estimating regional availability of individual cereals, was the lack of data on inter-State movement of grains, particularly movement by road. It may be that while possibly the estimated availabilities reflected the trend over years fairly, the year to year fluctuations were not as good on that account.

#### *Other cereals*

For all-India a simple correlation analysis between the deflated price of *jowar* (deflated by wholesale price index) and the per capita availability of *jowar* gave the following result :

$$\begin{array}{ll} \text{Coefficient of X} & = 0.991 \\ \text{(per capita availability} & \text{(0.197)} \\ \text{of jowar )} & \end{array}$$

$$r^2 = 0.78$$

Inclusion of production or availability of wheat in the above model did not bring any significant results.

In case of U. P., however, the model for other cereals was as follows :

$$P_o = g'' (A_o, A_w)$$

where  $P_o$  is price of other cereals deflated by WPI and  $A_o$  is per capita availability of other cereals, and  $A_w$  is per capita availability of wheat.

The data were annual from 1952-53 to 1960-61. The results are

$$P_o = 53.08 - 258.63 A_o - 478.15 A_w$$

$$\begin{array}{ll} & \text{(62.90)} \quad \text{(132.53)} \end{array}$$

$$R^2 = 0.765.$$

Table A 6.1 : Quarterly data on price, production and stock of wheat, and adjusted National Income, 1956-62

Year	Quarter	Index of Wholesale price of wheat (1952-53 = 100)		Supply from production		Stocks at the beginning of the quarter		Adjusted National Income at current prices	
		Undeclared by W.P.I.	Deflated by W.P.I.	Total ( '000 tonnes )	Per Capita ( kgs. )	Total ( '000 tonnes )	Per Capita ( kgs. )	Undeclared Total ( abja Rs. )	Deflated by W. P. I. Per Capita ( Rs. )
1956	Jan-March	85	88	2287	5.91	218	0.56	24.6	66.0
	April-June	80	79	2218	5.62	93	0.24	25.8	64.8
	July-Sept.	87	82	2218	5.62	63	0.16	25.8	61.9
	Oct-Dec.	91	84	2218	5.62	182	0.46	25.8	60.7
1957	Jan-March	95	89	2218	5.62	147	0.37	25.8	61.4
	April-June	91	84	2377	5.90	136	0.34	29.1	66.5
	July-Sept.	88	79	2377	5.90	247	0.61	29.1	65.0
	Oct-Dec.	87	80	2377	5.90	660	1.64	29.1	66.7
1958	Jan-March	85	81	2377	5.90	759	1.88	29.1	68.6
	April-June	88	81	2001	4.86	1003	2.44	29.1	64.9
	July-Sept.	101	87	2001	4.86	902	2.19	29.1	61.2
	Oct-Dec.	112	98	2001	4.86	378	0.92	29.1	62.2
1959	Jan-March	121	107	2001	4.86	532	1.29	29.1	62.8
	April-June	95	83	2490	5.91	584	1.39	32.4	67.5
	July-Sept.	96	82	2490	5.91	947	2.25	32.4	65.7
	Oct-Dec.	98	83	2490	5.91	970	2.30	32.4	64.8

Table A 6.1 : Quarterly data on price, production and stock of wheat, and adjusted National Income 1956-62 (Contd.)

Year	Quarter	Wholesale price of wheat Index (1952-53=100)		Supply from production		Stocks at the beginning of the quarter		Adjusted National Income at current prices	
		Unde-flated	Defla- ted by W.P.I.	Total ( '000 tonnes)	Per Capita ( Kgs. )	Total ( '000 tonnes )	Per Capita ( Kgs. )	Unde- flated Total ( abja Rs. )	Deflated by W.P.I. per Capita ( Rs. )
1960	Jan-March	96	81	2490	5.91	679	1.61	32.4	64.5
	April-June	88	72	2562	5.94	703	1.63	33.9	64.4
	July-Sept.	91	73	2562	5.94	1427	3.31	33.9	62.9
	Oct-Dec.	90	72	2562	5.94	1355	3.14	33.9	62.6
1961	Jan-March	91	72	2562	5.94	1736	4.03	33.9	62.1
	April-June	87	69	2748	6.22	1735	3.93	36.7	65.9
	July-Sept.	88	69	2748	6.22	1767	4.00	36.7	65.5
	Oct-Dec.	92	74	2748	6.22	1791	4.05	36.7	66.9
1962	Jan-March	97	78	2748	6.22	1725	3.90	36.7	67.1
	April-June	89	71	2952	6.52	1405	3.10	38.2	66.9
	July-Sept.	92	71	2952	6.52	1479	3.26	38.2	64.6
	Oct-Dec.	90	70	2952	6.52	1640	3.62	38.2	65.5
1963	Jan-March	88	70	2952	6.52	1675	3.70	38.2	66.6

W. P. I. : Wholesale Price Index, all commodities.

E...19

Table A 6.2 : *Application of Section 3 (3A) of the E. C. Act, 1955, to wheat and rice*

<i>State</i>	<i>Rice/Paddy</i>	<i>Wheat</i>
Andhra Pradesh	6- 6-57 to 5-12-57	
Assam	6- 6-57 to 5-12-57	
Bihar	6- 6-57 to 5-12-57 8- 5-57 to 7-11-58	
Gujarat	6- 6-57 to 5-12-57 19- 9-57 to 18-12-58	16-2-57 to 15-5-59
Maharashtra	6- 6-57 to 5-12-57 19- 9-57 to 18-12-58	16-2-57 to 15-5-59
Madhya Pradesh	6- 6-57 to 5-12-57	4-6-58 to 3-3-59
Madras	6- 6-57 to 5-12-57	
Mysore	6- 6-57 to 5-12-57	
Kerala		
Orissa	6- 6-57 to 5-12-57 21-12-59 to 20- 6-60 16- 7-60 to 17- 4-63	
Punjab	6- 6-57 to 5-12-57	2-11-57 to 1- 5-58 4- 9-58 to 3- 6-59
Rajasthan	6- 6-57 to 5-12-57	7- 6-58 to 8- 4-59
Uttar Pradesh	6- 6-57 to 5-12-57 8- 5-57 to 7-11-58	2-11-57 to 1- 5-58 7- 6-58 to 6- 3-59
West Bengal	6- 6-57 to 5-12-57	

Table A 6.3 : *Average annual price of wheat in 17 centres*

(In Rs. per maund)

Market Centre	State	April-March Year									
		1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
Khagaria	Bihar	23.21	17.67	14.52	12.29	15.49	16.12	21.94	18.84	19.12	18.60
Dhanduka	Gujarat	20.11	18.46	11.94	13.02	15.94	17.04	19.45	18.77	16.71	16.37
Rajkot	"	22.72	18.42	12.25	14.98	17.07	17.75	19.81	20.47	18.93	19.18
Sagar	Madhya Pradesh	17.81	17.71	13.06	12.66	15.47	12.86	19.42	15.03	13.08	14.26
Bhopal	"	16.00	15.04	12.43	12.07	15.06	13.52	19.46	14.98	13.17	15.13
Rewa	"	18.04	18.48	11.99	12.19	15.50	14.30	16.20	14.13	12.11	13.98
Madras	Madras	19.40	17.47	17.15	15.34	18.77	17.86	14.00	14.00	14.00	14.00
Moga	Punjab	12.64	14.48	13.67	13.45	16.23	15.32	17.73	16.25	15.40	16.96
Abohar	Punjab	13.18	14.55	13.39	12.51	15.08	14.23	16.38	15.01	14.46	15.37
Kotah	Rajasthan	15.67	13.05	11.44	10.94	15.75	12.86	16.49	16.09	16.57	16.08
Kanpur	Uttar Pradesh	18.87	17.64	12.60	11.94	14.44	14.28	19.04	17.93	15.59	14.26
Hapur	"	19.50	16.11	13.12	12.44	14.95	15.65	21.49	19.02	17.08	15.37
Chandausi	"	19.38	16.48	12.97	12.27	15.29	15.28	21.05	16.57	16.77	15.44
Bahraich	"	19.41	16.04	12.88	11.77	14.83	15.88	20.33	16.06	15.53	15.07
Calcutta	West Bengal	19.40	18.25	15.99	14.67	17.16	16.81	14.00	14.00	14.00	14.00
Delhi	Delhi	14.57	15.53	12.47	12.45	15.00	14.92	17.02	15.19	14.94	14.98
Bombay	Maharashtra	19.75	18.15	13.48	14.48	14.58	18.75	22.38	24.02	19.86	20.94

Source : *Bulletin on Food Statistics.*

Table A 6.4 : Average annual price of wheat in different states

( Rupees per maund )

State	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
Bihar	23.21 (100.0)	17.67 (76.1)	14.52 (62.6)	12.29 (53.0)	15.49 (66.7)	16.12 (69.5)	21.94 (94.5)	18.84 (81.2)	19.12 (82.4)	18.60 (80.2)
Gujarat	21.41 (100.0)	18.44 (86.1)	12.09 (56.5)	14.00 (65.4)	16.50 (77.1)	17.40 (81.2)	19.63 (91.7)	19.62 (91.6)	17.82 (83.2)	17.77 (83.0)
Madhya Pradesh	17.28 (100.0)	17.08 (98.8)	12.50 (72.3)	12.31 (71.2)	15.35 (88.8)	13.56 (78.5)	18.36 (106.2)	14.71 (85.1)	12.79 (74.0)	14.46 (83.6)
Punjab	12.91 (100.0)	14.52 (112.4)	13.53 (104.8)	13.01 (100.8)	15.66 (121.2)	14.78 (114.4)	17.05 (132.1)	15.63 (121.0)	14.93 (115.6)	16.17 (125.2)
Uttar Pradesh	19.29 (100.0)	16.57 (85.9)	12.89 (66.8)	12.10 (62.8)	14.88 (77.1)	15.27 (79.2)	20.48 (106.2)	17.39 (90.2)	16.25 (84.2)	15.04 (78.0)
Delhi	14.57 (100.0)	15.53 (106.6)	12.47 (85.6)	12.45 (85.4)	15.00 (103.0)	14.92 (102.4)	17.02 (116.8)	15.19 (104.2)	14.94 (102.5)	14.98 (102.8)
Rajasthan	15.67 (100.0)	13.05 (83.3)	11.44 (73.0)	10.94 (69.8)	15.75 (100.5)	12.86 (82.1)	16.49 (105.2)	16.09 (102.7)	16.57 (105.7)	16.08 (102.6)
All-India	17.76 (100.0)	16.12 (90.7)	12.78 (71.9)	12.44 (70.0)	15.52 (87.4)	14.99 (84.4)	18.71 (105.3)	16.78 (94.5)	16.06 (90.4)	16.16 (91.0)

The figures in brackets are indexes with 1952-63=100

## CHAPTER VII

### IMPACT ON PRODUCTION

One of the major questions relating to the import of agricultural commodities under Title 1 of P. L. 480 into India relates to the impact on domestic production of such commodities. The chief source of influence of such imports would be through prices of such commodities. If the domestic production or supply of these commodities has a positive price elasticity, then any lowering of the relative prices of such commodities is sure to affect their production. Variation in aggregate production depends on variation in the area devoted to the crop and the yields per acre of that crop. These in turn may be affected not only by prices of the product and of factors, but also by such autonomous factors as increase in area available for cultivation, extension of irrigation, varietal improvements, technological changes in crop production methods, and weather. Though data on all these aspects are not available, we shall try to bring out the effects of as many of these as possible.

In the following, we shall examine the changes in production of various cereals grown in India, the acreage under these crops and changes in per-acre yield, for the decade preceding 1961-62. As wheat is the most important agricultural commodity imported under P. L. 480, naturally attention will be devoted mainly to wheat.

The index of production of *Kharif* and *Rabi* cereals<sup>1</sup> in India showed 31 and 66 per cent increase in production by 1961-62 over 1949-50. The much larger increase in *Rabi* cereals was due mainly to wheat,<sup>2</sup> which registered a 75 per cent increase in production during these 12 years. A larger proportion of the increase in cereal production had taken place by 1956-57, particularly in *Rabi* cereals. The rate of increase in *Kharif* cereal production in the first 7 years (till 1956-57) was a little over 2 per cent and it was around the same (2.4 per cent) in the later 5 years. In the case of *Rabi* cereals, the rate was more than 5 per cent in the first 7 years and a little more than 4 per cent in the later 5 years. Therefore, while aggregate cereal production continued to increase over the period since 1949-50, the rate of increase had somewhat slowed down in the period of the Second Five-Year Plan (1956-61).

Not all cereals reflected these overall trends. The cereals that showed the largest increase were wheat, rice and maize. The other cereals registered comparatively small increases (in case of small millets there was no increase in production). Linear trends were fitted to the logarithms of the index of

<sup>1</sup> Wheat and Barley are *Rabi* cereals, and all others are classified as *Kharif* cereals. *Kharif* season is from June to October, and *Rabi* from November to April.

<sup>2</sup> For the index of individual cereals refer to Table 7.3. The composite *Rabi* and *Kharif* indexes are not given here.

production of each individual cereal for two periods separately, 1949-50 to 1956-57, and 1956-57 to 1961-62. Table 7.1 presents the rates of increase in the production of each of the crops.

Table 7.1 : *Compound rates of growth of the index of production of various cereals*

<i>Crops</i>	1949-50	1956-57
	<i>to</i> 1956-57	<i>to</i> 1961-62
Rice	4.0	3.9
Jowar	2.1	1.3
Bajra	2.4	1.9
Maize	5.1	2.2
S. millets	2.1	1.0
Ragi	4.9	- 0.7
Barley	3.1	3.1
Wheat	6.0	6.1

The annual rate of growth was the highest for wheat, followed by maize, rice and *ragi*. In almost all cases, the rate of increase declined after 1956-57. Similar rates of growth computed by fitting trend lines to logarithms of the index of three-year moving-averages of production (see Table 7.2) show no change in the production of barley and, possibly *bajra* since 1953-54 and a declining tendency in the case of small millets. In the case of *jowar*, *bajra*, and small millets, year-to-year fluctuations in production were very large. They were comparatively less in the case of wheat, rice, and more recently maize, and to a lesser extent *ragi*.

A careful look at the indexes of agricultural production will show that there was a very large increase in the production of almost all cereals in India in

Table 7.2 : *Compound rates of growth of the index of three-year moving-average of production of cereals*

<i>Crops</i>	1950-51	1953-54	1950-51	1955-56
	<i>to</i> 1953-54	<i>to</i> 1960-61	<i>to</i> 1955-56	<i>to</i> 1960-61
Rice	5.5	2.9	4.9	3.5
Jowar	7.7	1.3	4.0	2.7
Bajra	10.2	- 0.1	5.6	1.6
Maize	10.5	2.5	5.7	3.4
Small millets	7.6	- 2.0	4.4	- 0.2
Ragi	5.2	2.1	6.9	0.8
Barley	6.5	- 0.9	3.7	0.3
Wheat	7.5	3.6	7.2	4.2

Table 7.3 : *Index of production of cereals in India (1952-53 = 100)*

<i>Year</i>	<i>Rice</i>	<i>Wheat</i>	<i>Jowar</i>	<i>Bajra</i>	<i>Maize</i>	<i>Barley</i>	<i>Small millets</i>	<i>Ragi</i>
1949-50	103.3	88.7	93.8	105.5	81.1	81.7	102.1	122.0
1950-51	90.8	89.7	84.2	88.4	68.5	86.3	90.8	106.8
1951-52	93.1	83.3	90.4	80.0	82.2	81.7	99.5	98.0
1952-53	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1953-54	122.5	106.5	109.8	142.4	105.6	100.7	128.6	140.2
1954-55	109.3	120.1	124.1	113.7	103.4	101.6	129.5	132.4
1955-56	118.0	116.5	90.7	114.2	91.1	96.8	107.4	146.0
1956-57	124.4	124.8	98.8	95.0	107.7	98.4	100.1	144.8
1957-58	109.2	105.1	116.4	119.7	110.2	78.4	91.6	145.0
1958-59	132.6	130.8	121.8	128.0	109.9	92.1	114.6	157.4
1959-60	129.4	134.6	109.7	118.3	118.8	92.9	108.4	156.2
1960-61	140.7	166.4	126.2	106.8	117.2	98.0	103.9	135.7
1961-62	140.5	155.1	105.0	117.7	118.6	106.6	100.3	143.5

*Source* : Directorate of Economics and Statistics, Ministry of Food and Agriculture.

Table 7.3a : *Index of production of cereals in India : three-year moving-averages (1953-54 = 100)*

<i>Year</i>	<i>Rice</i>	<i>Wheat</i>	<i>Jowar</i>	<i>Bajra</i>	<i>Maize</i>	<i>Barley</i>	<i>Small millets</i>	<i>Ragi</i>
1950-51	86.6	80.1	80.4	76.9	75.0	82.6	81.6	87.6
1951-52	85.5	83.6	82.3	75.4	81.1	88.6	81.0	81.7
1952-53	95.1	88.8	90.0	90.6	93.1	93.4	91.6	90.8
1953-54	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1954-55	105.4	105.1	97.2	104.0	97.1	98.9	102.1	112.3
1955-56	106.0	110.7	93.9	90.8	97.8	98.2	94.1	113.5
1956-57	105.9	106.1	91.7	92.4	100.0	90.5	83.5	116.9
1957-58	110.4	110.4	100.9	96.3	106.1	90.0	85.5	119.9
1958-59	111.9	113.4	104.2	102.8	109.7	87.1	87.9	123.1
1959-60	121.4	125.4	107.2	99.1	112.0	93.7	91.3	120.5
1960-61	123.7	132.9	102.1	96.3	114.7	98.5	87.3	116.8

the two years following 1952-53 (Table 7.3). Not in all cases could this high level be maintained throughout the subsequent period, but in general, agricultural production had shifted to a higher level during these years compared to the years before 1953-54. If we take the index of three-year moving-average of production, with the index of average production of the period 1952-53 to 1954-55 as base, (Table 7.3a) then we find that the millets, including *jowar* and *bajra*, did not show any significant increase during the subsequent years, whereas the increase in rice and wheat production continued throughout. The period following 1956-57 was the period of imports under P. L. 480, mainly of wheat. During these years wheat production increased at the rate of 4.2 per cent and rice at 3.5 per cent. (Ref. Table 7.2)

In view of the significant increases in production of cereals, mainly wheat and rice, it is necessary to enquire into the sources of this rise : the extent of changes in area under these crops and their yields per acre.

During the 12 years since 1949-50 there was a 12 per cent increase in area under *Kharif* crops and 25 per cent in area under *Rabi* crops, while the increase in yield per acre was 18 and 24 per cent respectively.<sup>3</sup> The increase in *Kharif* cereal production was more due to the rising per-acre yield, whereas the increase in *Rabi* cereal production was more due to increasing area under *Rabi* cereals. A detailed perusal of trends in acreage and yield-rates of the individual cereals will bring this out clearly.

Table 7.4 contains the index of area under cereals in India, and Table 7.4a, the three-year moving-average of the index of area under cereals. Both tables show that since 1953-54 only 3 cereals registered significant rise in acreage, wheat, rice and maize. The millets, i. e. *jowar*, *bajra* and small millets, reached peak acreage in 1953-54, after which the area more or less stabilized at a somewhat lower level, or declined almost continuously, as in the case of small millets. In contrast to this, the areas under rice and maize steadily increased through the decade. Wheat acreage shows a peculiar trend. Compared to 1952-53, acreage under wheat increased by nearly 38 per cent in 4 years. In the later two of these four years the increase was of the order of 20 per cent, while in the earlier 2 years it was about 15 per cent. This phenomenal rise in wheat acreage during the 2 years 1955-56 and 1956-57 was, however, lost in the subsequent year when there was a sharp drop in the acreage. But since then wheat acreage increased steadily, though not with such rapid strides, and almost recovered the 1956-57 level in 1961-62.

Therefore, one may broadly say that while wheat acreage was increasing before imports under P. L. 480 period and also increased during the period of imports, the rate of increase was greater under the earlier than the later period. If the sharp rise in acreage during the two years 1955-56 and 1956-57 is considered rather exceptional then the rise in wheat acreage would appear as

<sup>3</sup> The index of area under *Kharif* cereals stood at 111.9 and *Rabi* cereals at 125.2; the index of per-area yield of *Kharif* cereals at 118.6 and *Rabi* cereals at 123.5 in 1960-61.

Table 7.4 : *Index of area under cereals in India ( 1952-53 = 100 )*

Crop	Agricultural Year											
	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
Rice	102.7	99.5	100.0	104.4	102.4	105.0	107.3	107.3	110.1	111.3	111.4	112.4
Wheat	99.2	96.4	100.0	108.7	114.6	125.8	137.6	119.4	128.4	134.0	132.0	136.9
Jowar	88.7	90.9	100.0	101.2	99.6	98.8	92.4	98.5	102.1	97.0	98.2	99.1
Bajra	83.7	88.4	100.0	113.3	105.6	105.2	104.4	103.7	106.1	100.5	106.1	101.5
Maize	87.6	91.8	100.0	107.3	103.9	102.4	104.2	113.0	118.2	120.1	120.8	123.8
Ragi	98.3	97.7	100.0	104.2	102.6	99.2	100.3	103.5	107.8	106.3	98.5	98.0
Small millets	91.3	94.4	100.0	112.5	111.6	105.5	98.4	96.1	101.3	98.9	96.2	93.1
Barley	96.9	97.4	100.0	107.7	105.2	105.3	108.3	94.4	101.8	103.9	99.1	102.7

Source : Directorate of Economics and Statistics, Ministry of Food and Agriculture.

Table 7.4a : *Index of ( three-year moving-averages of ) area under cereals in India ( 1953-54 = 100 )*

Crop	Agricultural Year									
	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61
Rice	98.5	99.0	100.0	101.6	102.6	104.2	105.8	107.1	108.5	109.2
Wheat	91.4	94.4	100.0	108.0	116.9	118.4	119.2	118.1	122.0	124.6
Jowar	93.0	97.1	100.0	99.6	96.7	96.3	97.4	98.9	98.9	97.9
Bajra	85.3	94.6	100.0	101.6	98.8	98.2	98.5	97.3	98.0	96.6
Maize	90.2	96.3	100.0	100.8	99.8	102.6	107.5	112.4	114.8	116.5
Ragi	96.5	98.4	100.0	99.7	98.5	98.8	101.6	103.5	101.9	98.7
Small millets	88.2	94.7	100.0	101.7	97.3	92.6	91.3	91.5	91.5	88.9
Barley	94.0	97.5	100.0	101.7	101.9	98.4	97.3	95.9	97.4	97.7

more or less continuous since 1952-53. But if it was not so, the increase in acreage from 1958-59 to 1961-62 may be considered as a slow recovery of lost ground. While this phenomenon needs some explanation, the fact of the steady rise in wheat acreage remains, whichever the period chosen for comparison. In the following Table 7.5 the compound growth-rates of the three-year moving-averages of the index of area under various cereals are presented for 2 different sets of years, with year 1953-54 as the dividing line for one set, and 1955-56 as the line for the other, the latter making for a comparison between the pre-P.L. 480 period and the P. L. 480 period proper.

Whichever may be the period chosen, the only three cereals that showed an increase in acreage were rice, wheat and maize.

Table 7.5 : *Compound growth-rates of the Index of three-year moving-average of area under various cereals*

<i>Commodity</i>	1950-51	1953-54	1950-51	1955-56
	<i>to</i> 1953-54	<i>to</i> 1960-61	<i>to</i> 1955-56	<i>to</i> 1960-61
Rice	0.4	1.3	0.8	1.3
Jowar	4.0	-0.1	1.9	0.5
Bajra	7.7	-0.5	4.6	-0.4
Maize	5.0	2.6	3.1	3.4
Small millets	5.2	-1.8	3.1	-1.4
Ragi	0.7	0.2	0.3	0.4
Barley	2.4	-0.7	2.0	-0.7
Wheat	3.1	2.6	5.3	1.2

The same, however, cannot be said of yield per acre of these cereals. Tables 7.6 and 7.6a present indexes of yield per acre of various cereals, and the indexes of three-year moving-average of yields per acre respectively. We find that the highest increase in yield per acre was registered by rice, followed by wheat, jowar, barley, ragi and maize. It will be clear from the data that a significant increase in per-acre yield of wheat had taken place in 1954-55, and the rate of growth in the following years was smaller. In the case of rice, on the other hand, the increase while sharp in the early years of the 50's, was steadier throughout the later period than that of wheat. This is reflected in a higher annual growth-rate in per-acre yield of rice than of wheat in the years following 1953-54. In the case of both wheat and rice per-acre yields were low for a few years, from 1955-56 to 1957-58. This was possibly due to unfavourable seasonal conditions. In both cases significant increases were recorded in the years 1960-61 and 1961-62. In the case of most other cereals except maize, the increases in yield per acre were not as significant, and in some instances, like jowar, it fluctuated considerably from year to year. The annual rates of growth estimated for two different sets of period are presented in Table 7.7.

Table 7.6 : *Index of yield per acre of cereals in India (1952-53 = 100)*

<i>Crop</i>	<i>Agricultural Year</i>											
	1950-51	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61	1961-62
Rice	88.3	93.6	100.0	117.3	106.6	112.3	115.9	101.6	120.5	116.3	131.2	124.9
Jowar	94.9	99.7	100.0	108.5	124.7	91.8	106.9	118.4	119.4	113.3	128.7	106.1
Bajra	105.2	90.4	100.0	125.5	107.6	108.4	90.8	115.1	120.3	117.1	100.4	115.5
Maize	78.0	89.5	100.0	98.5	99.5	88.8	103.3	97.6	92.9	98.8	105.5	104.2
Ragi	108.7	100.4	100.0	134.5	129.0	147.1	144.1	139.9	146.1	146.9	137.7	146.3
Small millets	99.1	108.1	100.0	114.1	115.9	101.5	101.5	94.9	112.9	109.3	107.8	107.5
Wheat	90.5	86.4	100.0	98.0	104.9	92.6	90.7	88.1	101.9	100.4	109.4	113.3
Barley	89.2	83.9	100.0	93.4	96.6	91.9	90.9	83.0	90.4	89.4	98.9	103.7

Table 7.6a : *Index of yield per acre (three-year moving-average) of cereals in India (1953-54 = 100)*

<i>Crop</i>	<i>Agricultural Year</i>									
	1951-52	1952-53	1953-54	1954-55	1955-56	1956-57	1957-58	1958-59	1959-60	1960-61
Rice	87.0	96.0	100.0	103.9	103.3	101.9	104.4	104.5	113.6	116.6
Jowar	88.3	92.3	100.0	97.4	96.9	95.0	103.3	105.3	106.2	104.3
Bajra	88.5	94.6	100.0	102.5	92.1	94.3	97.8	105.7	101.4	100.0
Maize	89.8	96.6	100.0	96.3	97.8	97.2	98.6	97.0	99.7	103.5
Ragi	85.0	92.3	100.0	113.0	115.7	118.7	118.3	119.2	118.5	118.7
Small millets	92.4	96.7	100.0	100.5	96.7	90.5	93.7	96.2	100.0	98.4
Wheat	91.4	93.8	100.0	97.6	95.1	89.5	92.7	95.8	102.9	106.6
Barley	94.2	95.6	100.0	97.3	96.4	91.7	91.2	90.7	96.1	100.8

Table 7.7 : *Compound rates of growth of the index of three-year moving-average of yield per acre of various cereals*

Commodity	1950-51	1953-54	1950-51	1955-56
	to 1953-54	to 1960-61	to 1955-56	to 1960-61
Rice	5.0	1.9	4.0	2.7
Jowar	3.9	1.3	2.3	2.1
Bajra	2.3	0.5	1.0	2.1
Maize	5.2	0.5	2.6	1.0
Small millets	2.0	-0.1	1.1	1.2
Ragi	4.2	0.0*	6.5	0.0
Barley	3.9	-0.2	1.6	1.1
Wheat	4.1	0.9	1.9	2.8

\* Almost constant.

The all-India picture of changes in area and yield of various cereals thus shows that area under the main cereals, rice and wheat, increased through the 12 years ended 1961-62, as well as during the years of imports under P. L. 480. The increase was particularly large in the case of wheat. The millets group either showed no change, or showed signs of decline, since 1953-54 as in the case of small millets. Yield per acre in the case of many of the cereals registered some rise, the most significant being that of rice, wheat and maize.

In view of the fact, noted in the earlier chapter, that wheat price was relatively lower, during the period of imports under P. L. 480 since 1957, the large increase in wheat production both due to increase in area and yield per acre, needs more detailed attention. For this purpose we shall analyse the data for wheat acreage and yield for the four or five major wheat-growing areas in India which account for nearly 90 per cent of the total area under wheat in the country. They are : the Punjab, Uttar Pradesh, Madhya Pradesh, Rajasthan,, and the States of Maharashtra and Gujarat together.<sup>4</sup>

The index of area under wheat, gross cropped area, and net sown area during the period 1952-53 to 1961-62 in the 5 states are given in Table 7.8. It is quite clear that in each of these states the net sown area significantly increased during the years and this was a major contributor to the rise in wheat acreage. The rise in net sown area took place due to extension of cultivation to fallow land as well as uncultivated waste land in these states. The increasing pressure of population and the various agricultural development programmes contri-

<sup>4</sup> It is necessary to state here an important limitation of the data on acreage and yields, on the state level, available to us. Unlike in the case of the all-India figures, no series of indexes of acreage, production, etc., compiled by taking the changes in scope and method of statistical data collection, had been published by the time this study was prepared. The data and their indexes presented here are actuals, and are therefore subject to this limitation.

buted to this. Whatever the reasons for this extension, for the present purpose it may be considered an autonomous factor affecting the area under wheat. With the increase in area available for cultivation it is natural to expect the area under wheat to rise. The interesting thing to notice, in this connection, however, is that the rise in wheat area in all these states was proportionately much more than the rise in net sown area, (Table 7.8a). This means that an increasing proportion of the new area went under wheat. It was particularly so in the Punjab, Rajasthan and Madhya Pradesh where the percentage rise in area under wheat was 43, 84 and 59 respectively, whereas the percentage rise in net sown area respectively was 16, 27 and 11 only. In the case of U. P. and Maharashtra-Gujarat most of the increase in area under crops had taken place by 1956-57 and thereafter the relation of wheat area to net sown area remained more or less unchanged.

It is necessary to remember here that all the above data relate to whole regions called the states, and not to smaller geographical or administrative units. If the bulk of the increase in sown area is confined to some specific regions in each state, then the crop pattern in the new lands will depend upon the existing crop pattern in the districts concerned, the suitability of the new land for different crops, etc. Only a detailed examination of regional data, not attempted here, can show to what extent expansion of wheat area was due to peculiarities of specific regions.

Besides the addition to net cropped area, the second factor responsible for the rise in wheat acreage, was the increase in area double cropped, or decline in seasonal fallow. This phenomenon was marked in most states, particularly in the Punjab. Table 7.8 reveals that while net cropped area increased by 16 per cent in the Punjab, the gross cropped area increased by at least 27 per cent. In U. P. this was much less. In Rajasthan there was a great spurt in the middle of the 50's, but later it came down. Madhya Pradesh showed no great increase.

The area under wheat registered a greater rate of increase than the gross cropped area showed, in all the states (Table 7.8a). It implies that wheat benefited to a greater extent from this decline in seasonal fallow.

To a certain extent the more intensive use of available land by growing more than one crop a year was facilitated by the extension of irrigation. But most of the rise in double cropping and, in any case, most of the rise in area under wheat in these states was in non-irrigated land. The index of gross irrigated area in different states, and the gross irrigated area as a percentage of gross cropped area are given in Table 7.9. Irrigated wheat-area as a percentage of total wheat-area is shown in Table 7.10. It is difficult, with the data available, to say what factors other than extension of irrigation have influenced extension of double cropping.

Table 7.8 : Index of area under wheat, gross cropped area and net cropped area in various states ( 1952-53 = 100 )

Year	Punjab			Uttar Pradesh			Madhya Pradesh			Rajasthan			Maharashtra and Gujarat		
	Area under wheat	Gross cropped area	Net cropped area	Area under wheat	Gross cropped area	Net cropped area	Area under wheat	Gross cropped area	Net cropped area	Area under wheat	Gross cropped area	Net cropped area	Area under wheat	Gross cropped area	Net cropped area
	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
1952-53	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1953-54	106	107	105	111	103	100	107	103	103	116	104	104	117	105	104
1954-55	114	117	109	111	104	102	119	105	105	133	109	106	120	106	104
1955-56	125	125	111	119	105	102	141	107	106	142	115	110	137	106	105
1956-57	128	126	113	120	107	103	162	108	106	198	125	119	146	107	106
1957-58	129	125	113	111	105	102	127	101	104	156	118	116	139	106	105
1958-59	137	130	115	115	109	103	140	109	107	173	125	121	134	108	106
1959-60	137	127	115	115	109	104	158	111	109	179	132	127	144	N. A.	N. A.
1960-61	139	127	114	117	109	104	155	111	110	156	128	126	138	N. A.	N. A.
1961-62	143	127	116	121	N. A.	N. A.	159	113	111	184	N. A.	N. A.	133	N. A.	N. A.

Source : Season and Crop Reports and Bulletins of the State Bureaus.

N. A. :—Not available.

Table 7.8a : *Area under wheat as percentage of (1) area under all cereals, (2) gross cropped area, and (3) net cropped area in various states*

Year	Punjab			Uttar Pradesh			Madhya Pradesh			Rajasthan			Maharashtra and Gujarat		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
1952-53	39.5	20.6	24.2	26.5	16.9	20.5	20.0	12.2	13.6	12.9	6.3	6.6	6.7	3.6	3.7
1953-54	40.2	20.3	24.3	27.9	18.2	22.5	20.3	12.7	14.0	12.0	7.0	7.3	7.5	4.0	4.2
1954-55	45.4	20.0	25.5	27.8	18.1	22.4	22.4	13.8	15.4	13.9	7.6	8.2	7.9	4.1	4.3
1955-56	46.6	20.7	27.3	29.9	19.2	23.9	25.8	16.0	18.0	13.9	7.8	8.5	9.1	4.7	4.9
1956-57	47.6	20.9	27.4	29.4	18.9	23.9	29.4	18.4	20.9	18.8	9.9	10.9	9.7	5.0	5.1
1957-58	47.5	21.2	27.7	28.3	17.8	22.2	24.0	15.3	16.7	14.8	8.2	8.8	9.4	4.8	5.0
1958-59	47.4	21.7	28.7	28.1	17.8	22.7	25.4	15.8	17.8	15.6	8.6	9.4	8.9	4.5	4.7
1959-60	48.3	22.2	28.8	28.4	17.8	22.6	27.9	17.4	19.6	16.6	8.5	9.3	9.7	N. A.	N. A.
1960-61	47.2	22.4	29.4	28.5	18.1	22.9	26.7	17.1	19.2	13.3	7.6	8.2	9.5	N. A.	N. A.
1961-62	48.7	23.0	29.7	29.4	18.5	23.7	27.6	17.1	19.5	15.4	N. A.	N. A.	9.1	N. A.	N. A.

N. A. :—Not available.

A third factor that appears to have been of some importance in the case of wheat is the decline in area under millets, in some years. The sharp increase in area under wheat in most states in 1955-56 and 1956-57 was to a certain extent due to the decline in acreage under *Kharif* millets in those years, brought about by unfavourable seasonal conditions at *Kharif* sowing time. Apart from this, some states showed a continuous decline in area under millets during the 10 years till 1961-62. This is true of *jowar* in Madhya Pradesh, and *bajra* and small millets in the Punjab and U. P. Since these two are *Kharif* crops, their replacement by *Rabi* wheat depends among other things on technological conditions, like rainfall or irrigation.<sup>5</sup>

The examination so far of trends in area under wheat in the major wheat-growing states of India, indicates that the net increase in total area sown in each of these states was the most important factor in explaining the rise in wheat area. The increase of area under double cropping was also a notable contributory factor in some states, particularly in the Punjab. Shift from area under *Kharif* millets due to adverse *Kharif* seasonal conditions added to the sharp rise in wheat acreage around 1956-57, while the unfavourable seasonal conditions at *Rabi* sowing time caused decline of wheat acreage in 1957-58. Besides these, the steady decline in *Kharif* millets area in some states possibly had a marginal influence on wheat area.

In this story of marked increases in production and acreage of wheat in particular, the role of the price of wheat is not clear. In the earlier chapter the declining price of wheat in relation to the general price level in the country since 1955-56, and particularly since 1958-59 was brought out. In the case of the producer-farmers the relevant relation would be the price of wheat related to the price of alternate crops in production. Tables A7.1 to A7.4 in the Appendix to this chapter give, among other things, the harvest price of wheat as related to the harvest price of competing crops in the Punjab, U. P. and Madhya Pradesh, the three large wheat-growing states in India. All of these show a decline, particularly since 1959-60.

To what extent the supply of wheat would be affected by such adverse price conditions, would depend upon a variety of circumstances, including the relative suitability of land for various crops, the rainfall, as well as rotational constraints, and the subsistence needs of the cultivator. Not many empirical studies relating to the price elasticities of supply of cereals under Indian conditions are available. The only studies relating to pre-war undivided Punjab<sup>6</sup> give very low elasticities of acreage with respect to prices, for most cereals.

<sup>5</sup> Table A 7.5 in the Appendix to this chapter presents detailed data about acreage under various cereals in the major wheat-growing states, since 1952-53. Table A 7.6 shows the proportion of area under *Rabi* cereals to area under all cereals, in three of these states.

<sup>6</sup> Raj Krishna, "Farm Supply Response in India-Pakistan: A case study of the Punjab Region", *Economic Journal*, Sept. 1963. Some unpublished estimates by N. Rath for *jowar* and cotton in pre-war Madhya Pradesh give even lower elasticity estimates than those for the Punjab.

Table 7.9 : *Irrigated area in different states*

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Year	Punjab		Uttar Pradesh		Rajasthan		Maharashtra and Gujarat		Madhya Pradesh	
	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)	(i)	(ii)
1952-53	100.0	42.7	100.0	27.3	100.0	14.1	100.0	5.3	100.0	5.0
1953-54	103.1	41.1	101.5	27.0	89.8	12.1	109.4	5.6	102.4	5.0
1954-55	111.2	40.4	101.1	26.5	97.8	12.6	108.4	5.4	103.5	5.0
1955-56	112.3	38.5	98.4	25.5	103.4	12.7	113.6	5.7	101.7	4.8
1956-57	113.6	38.4	92.5	23.6	112.1	12.6	117.3	5.8	101.9	4.8
1957-58	113.6	38.7	98.9	25.6	112.1	13.4	120.7	6.1	121.4	6.0
1958-59	118.2	38.8	98.2	24.6	108.8	12.0	122.9	6.1	103.0	4.8
1959-60	118.7	39.8	104.5	26.2	N. A.	N. A.	N. A.	N. A.	114.3	5.2
1960-61	119.3	39.9	102.1	25.6	N. A.	N. A.	N. A.	N. A.	114.0	5.2
1961-62	122.7	41.1	97.2	23.9	N. A.	N. A.	N. A.	N. A.	116.5	5.2

Notes : Col. (i) : Index of gross irrigated area under all crops with 1952-53=100.  
Col. (ii) : Gross irrigated area expressed as per cent of gross cropped area.

Table 7.10 : *Per cent of irrigated area under wheat*

Year	Punjab		Uttar Pradesh		Rajasthan		Maharashtra & Gujarat		Madhya Pradesh	
	1	2	1	2	1	2	1	2	1	2
1952-53	62.5	30.7	49.8	30.7	60.0	28.7	25.32	17.25	7.53	18.28
1953-54	59.5	29.3	50.1	33.8	52.7	30.3	26.26	19.15	6.33	15.98
1954-55	57.3	28.4	49.4	33.7	48.4	32.9	25.40	19.17	6.98	19.46
1955-56	52.4	28.2	45.9	34.5	55.6	33.9	26.90	22.07	6.41	21.56
1956-57	50.7	27.5	42.0	33.6	43.4	34.8	24.32	20.59	5.06	19.54
1957-58	50.2	26.9	44.6	31.0	N. A.	N. A.	24.42	19.19	6.51	16.56
1958-59	46.8	26.3	44.1	31.9	N. A.	N. A.	25.27	18.80	6.60	21.80
1959-60	50.7	28.2	46.2	31.4	N. A.	N. A.	N. A.	N. A.	6.21	20.89
1960-61	51.4	28.9	45.4	32.1	N. A.	N. A.	N. A.	N. A.	6.20	20.40
1961-62	52.3	29.3	40.4	31.3	N. A.	N. A.	N. A.	N. A.	6.39	21.13

Col. 1 : To total wheat area in the state.

Col. 2 : To total irrigated area under all crops in the state.

N. A. : Not available.

In order to isolate the effect of relative prices on the area under wheat from that of other factors, certain acreage response models were fitted to the available data for 11 years from 1950-51, for the three states, the Punjab, U. P. and Madhya Pradesh. In these models, the acreage under wheat was postulated to be dependent on the price of wheat relative to that of its substitutes in production, the net area sown for all crops, ( or a linear trend factor that stood for this as well as any similar force in operation), and some measure of rainfall. Moreover, as irrigation releases land from the restraints put by rainfall, in regard to the use of land, it was thought necessary to analyse the trends in irrigated and unirrigated wheat area separately, wherever irrigated wheat was important. The detailed models and results obtained for each of these three states are presented in the Appendix to this chapter.

In almost all the regression models fitted to the available data, the coefficient of relative wheat-price turned out to be statistically insignificant. The total acreage under wheat in all the three states varied only with the variation in net cropped area and possibly with pre-sowing rainfall.<sup>7</sup> Similarly, the area under unirrigated wheat varied with the net unirrigated sown area, in both the Punjab and Uttar Pradesh. In regard to irrigated wheat also, relative price turned out non-significant in the Punjab, as well as in U.P. While in the Punjab the area under irrigated wheat was significantly related to the gross irrigated area, in U. P. this did not appear to be significant either. The data presented in Table 7.10 also show that share of irrigated wheat in total irrigated area in the Punjab declined somewhat only during the 3 years 1956-57 to 1958-59, but recovered to the earlier high level subsequently. In the M. P. the extent of irrigated wheat was very small, but even this small area appeared to maintain its position in the total irrigated area in the state. While the data for irrigated wheat for Rajasthan were not available for the entire period, the area under irrigated foodgrains, mainly wheat, showed no signs of decline during the entire period.

It is only in U. P. that the share of irrigated wheat in total irrigated crop area declined from 34 per cent in 1955-56 to 31 per cent in 1957-58 and then rose slightly to 32 per cent in 1960-61. Generally, this ratio was lower in the post-1957 years, than earlier. The irrigated crops that gained ground were rice and sugarcane. While rice and wheat are important crops in different parts of the state, sugarcane is an important crop in wheat-growing western U. P. The price of sugarcane had been supported by the state at a relatively high level for quite some years. If adequate data were separately available for those wheat-sugarcane areas, it was quite possible that the lower relative price of wheat would have shown significant effect on irrigated wheat acreage

7 Only in the case of the Punjab did price turn out to be somewhat significant when the independent variables were relative price, and a linear trend factor. In this case the price elasticity of acreage came to .178, not very different from that estimated by Raj Krishna, *op. cit.* For details of our results see Appendix to this chapter.

On the whole, therefore, the statistical analyses of the data for the years since 1951-52 do not indicate any significant influence of relative price on the acreage under wheat. It is possible that wherever suitable alternatives to wheat were available, as possibly in the case of sugarcane in U. P., the lower relative price of wheat prevented the area under wheat from increasing further to a certain extent. In the case of the Punjab, if one considers the linear trend factor as better representing the underlying non-price forces,<sup>8</sup> then one may say that wheat acreage in, say, 1961-62 was about 4 per cent less than what it would have been in the absence of the price-depressing effects of P. L. 480 imports. This was, however, less than one third of the actual rise in acreage that had taken place due to other factors. In regard to the other states, even this possibility appears remote.

So far only the trends in acreage under wheat in the wheat-growing states have been discussed. While land had been the most important input during the period, it would be of interest to find out if any noteworthy changes in inputs other than land (and water) took place. Such changes in inputs would be reflected in changes in yield per acre. It was pointed out earlier that yield of wheat per acre in India increased during the period 1954-55 to 1961-62, at a rather low rate, except during the last 2 years when it registered nearly 10 per cent rise. This was also borne out by the yield data for each of the wheat-growing states. It is, however, difficult to say how much of this increase was due to weather, how much due to rise in irrigated area, and how much due to rise in other inputs like fertilizer, improved seeds, etc. It is true that weather was unfavourable to wheat production for 3 years following 1955-56. To this must be added the seasonal fallow land brought under wheat, as well as the substitution of wheat on *Kharif* millet land, both of which may be considered marginal land from the point of view of wheat. An added factor, in some states like U. P. and the Punjab, was the decline in the proportion of irrigated wheat area in total area under wheat during these 3 years, due mainly to unfavourable seasonal conditions. A return to better weather conditions since 1958-59 would, therefore, have led to an improvement in yield per acre. The sharp increase in yield per acre in every one of these states during the two years 1960-62 may not, however, be adequately explained by improved weather, or irrigation conditions.

For no other inputs were continuous relevant data available at either macro or micro level. In general, fertilizer prices were low relative to prices of agricultural commodities, all these years. From this, however, it is difficult to say anything about increased fertilizer-input in wheat. State-wise data (Appendix Table A 7.7) on input of fertilizers show that the rice-growing states in South India had a higher input per acre than the wheat-growing

<sup>8</sup> Refer to the footnote on p. 163.

states in the North. The increased area under irrigated rice, as well as the improved techniques of rice cultivation, like the so-called Japanese method, contributed to this. In this sense, there is some likelihood that wheat lagged behind. But more than this it is difficult to say.

To sum up, the scene of agricultural production during the decade preceding 1961-62 was so dominated by extension of cultivation to new areas, particularly in the wheat-growing states, that it is difficult to see any effect on it, of the large wheat-imports under P. L. 480 through relatively lower wheat prices. The sharp seasonal fluctuations in the middle of the fifties further complicated the situation. It does not appear that the relatively low wheat prices had particularly discouraged farmeres from putting not merely a large part of the new land under wheat, but also from using the seasonal fallow land for the purpose. These trends that started around 1952-53 had not been reversed by 1961-62 though there were fluctuations intervening, a large part of which was probably due to weather. On the other hand, there is possibility of irrigated land under wheat having relatively lost ground to such crops as sugarcane, price of which was being supported by the government at a relatively high level. While it is not very clear, it is also possible that relative price had a marginally depressing effect on wheat acreage in the Punjab. Similarly, with regard to inputs other than land and water, one might suspect that wheat had been relatively behind rice during the last few years.

But finally, it would be necessary to note that though the P. L. 480 supplies started by the end of 1956, it was not until 1960 that their impact on domestic supplies was likely to be felt, mainly because the seasonal fluctuations in production and prices in the intervening years were too sharp, and the supplies under P. L. 480 were relatively smaller than those since 1960. (The relative price indexes of wheat for the 3 states given in the Appendix also reflect this.) Therefore, the period till 1962 might be considered too short to notice any long-term impact, as in the short run it would not be improper to expect the price elasticity of supply to be too small, if not zero, to be significant. Whereas till 1961-62 there had been no definite evidence of any serious adverse impact of P. L. 480 supplies on domestic production, this may not be so, if the existing trend in price continues.

Moreover, the relatively low price of wheat might affect production not only by creating conditions for shifting resources from wheat to other crops, so far as practicable, but also by affecting the general economic position of the farmer. The available data<sup>9</sup> indicated that in general the terms of trade had been unfavourable to the farmer since 1956. This was particularly so for the wheat farmers, whose income was consequently adversely affected<sup>10</sup>. Any

<sup>9</sup> The only data available were for the Punjab. These are presented in Table A 7.8 in the Appendix to this chapter.

<sup>10</sup> Low price of wheat meant that the wheat farmer had to bear a tax for subsidizing the consumption of others.

adverse impact on the farmers' income is not merely unfortunate in itself, but is also likely to further affect the resource position of the farmer for greater efforts at increased production.

There is a wider question to which naturally no attention has been given in this Chapter. In an economy like India's no one expects the relative prices to play the major role in increasing food-production to meet the rapidly growing demands. It would require major efforts at re-organization of the structure of agriculture, changing the technological base through extension of irrigation, improved seeds, increased supply of fertilizers, better credit- and marketing-facilities, and, generally, the know-how of superior farming-techniques. To a very large extent, these efforts in India have to be initiated mainly by the State. The question therefore is : Would there have been a greater effort to raise foodgrains production in general, and wheat in particular, had such large food-imports not been available ? With a policy of meeting any food shortage at any time by making a draft on government stocks, have the government at various levels tended to relax on their oars ? The implication is, the growth-rate in cereal production had to be much greater than what it was during the period of the Second Plan and the first half of the Third Plan, and therefore, much greater development activity in agriculture. Though the question is very pertinent, it is far more difficult to measure the supply response of the State ( not the farmer ) in such a context.

Attention may, however, be drawn to some features of the economy in recent years that would suggest a relaxation on the part of government. There is the large-scale non-utilization of the irrigation facilities provided during the last decade. One of the reasons for this has been the lack of knowledge amongst farmers about the best use of this water. The State has lagged behind in instituting proper experiments in various areas, and bringing this knowledge to the farmers through appropriate extension agencies. A more direct evidence of what might appear as relaxation on the part of the government is to be found in the differential policies in regard to wheat and rice. As a matter of policy, rice has received greater attention than wheat. New varieties have been tried more in rice. The so-called Japanese method of cultivation has been for rice. More fertilizers and irrigation has gone into rice. In recent years the ' package programme ' for increasing foodgrains production in selected districts, has been concentrated mainly in rice-growing districts. Now, it is true that rice has certain advantage over wheat, in term of availability of irrigation, etc. But when all is said and done, the fact remains that India has a shortage of rice which cannot be made good by large imports under P. L. 480. Hence the special efforts. On the other hand, any amount of wheat has been made available from surplus stocks in the U. S. A. It would not be surprising if the easy supply of wheat under P. L. 480 has contributed in a large measure to the lack of a vigorous policy in regard to wheat production in this country.

## APPENDIX TO CHAPTER VII

### 1. Factors influencing area under wheat :

(A) Punjab - The area under wheat in the Punjab increased from 4.0 million acres in 1950-51 to 5.5 million acres in 1960-61. A number of factors may be responsible for this substantial increase : (i) extension of net cultivated area in the state, (ii) increase in total area irrigated, (iii) decline in *Rabi* seasonal fallow, or increase in area double cropped, (iv) price of wheat in relation to prices of crops substitute to wheat in production, and (v) weather.

The data in relation to some of these factors were not available. No data were available relating to seasonal fallow. Adequate data relating to rainfall in the pre-wheat-sowing season in the Punjab could also not be obtained. As irrigation relaxes many of the constraints on the transfer of land from one crop to another, and irrigated wheat in the Punjab was more than half of total area under wheat, it was thought desirable to treat them separately.

Irrigated wheat :— The following models were used to test the factors affecting the area under irrigated wheat in the Punjab.

$$X_1 = f (X_2, X_3) \quad \dots\dots\dots (1)$$

$$X_1 = f' (X_2, X_4, X_5) \quad \dots\dots\dots (2)$$

$$X_1 = f'' (X_2, X_4, X_6) \quad \dots\dots\dots (3)$$

where  $X_1$  = irrigated area under wheat in year  $t$

$X_2$  = harvest price of wheat related to weighted average harvest prices of gram, barley, sugarcane, and American cotton grown in the Punjab, in year  $t-1$

$X_3$  = gross cropped area irrigated in year  $t$

$X_4$  = net cropped area irrigated in year  $t$

$X_5$  = irrigated area sown more than once, in year  $t$

and  $X_6$  = linear trend (1 to 12).

The relevant data are presented in Table A 7.1. The results of the regressions are summarized in the following :

Equation	Regression Coefficients of					$R^2$
	$X_2$	$X_3$	$X_4$	$X_5$	$X_6$	
(1)	-35.8 (17.0)	0.214 (0.034)	—	—	—	0.814
(2)	-37.2 (18.1)	—	0.232 (0.056)	0.200 (0.049)	—	0.818
(3)	-30.7 (16.9)	—	0.093 (0.062)	—	38.5 (8.6)	0.843

The figures in brackets are standard errors.

In all these, we find that relative price of wheat had no significant effect on irrigated wheat area. While in the first two equations either gross cropped area irrigated, or net cropped area irrigated and area double cropped explained nearly 80 per cent of the variation in irrigated area under wheat, in the third equation it was the trend factor that alone was significant.

Unirrigated wheat :— The models used for explaining variations in unirrigated area under wheat are given below :—

$$X'_1 = g (X'_2, X'_3) \quad \dots\dots\dots (4)$$

$$X'_1 = g' (X'_2, X'_3, X'_4) \quad \dots\dots\dots (5)$$

$$X'_1 = g'' (X'_2, X'_3, X'_5) \quad \dots\dots\dots (6)$$

where  $X'_1$  = unirrigated area under wheat in year  $t$

$X'_2$  = harvest price of wheat relative to the weighted average harvest prices of gram and barley in year  $t-1$

$X'_3$  = net unirrigated area sown in year  $t$

$X'_4$  = unirrigated area sown more than once, in year  $t-1$

$X'_5$  = linear trend.

The relevant data are presented in Table A 7.2. The results of the regressions are summarized below :

Equation	Regression Coefficients of				$R^2$
	$X'_2$	$X'_3$	$X'_4$	$X'_5$	
(4)	28.0 (30.0)	0.510 (0.080)	—	—	0.836
(5)	-21.6 (23.5)	0.425 (0.056)	0.195 (0.052)	—	0.940
(6)	50.4 (15.4)	0.256 (0.062)	—	71.7 (13.4)	0.965

The figures in brackets are standard errors.

In the first two equations, the regression coefficients or relative price of wheat turned out to be insignificant. Only gross or net cropped area and area under double cropping were significant. In the third equation when a trend variable replaced area sown more than once, all the variables, including price, became significant. It is, however, difficult to say what this linear trend stands for, if not increase in double cropping. It may be interpreted that there was, due to some forces, a general trend towards expansion of double cropped area on unirrigated land. The actual increase or decrease in unirrigated area double cropped was, however, influenced in any particular year by other forces like price. In this sense the results of the third equation might make sense. If the results of this equation are accepted, then the price elasticity of acreage (unirrigated) under wheat in the Punjab would come to about 0.18.

(B) Uttar Pradesh :— Similar analysis was carried out for irrigated and unirrigated wheat area in Uttar Pradesh.

Unirrigated wheat :— The following models were used :

$$Y_1 = h ( P_w, U_w ) \quad \dots\dots (7)$$

$$Y_1 = h' ( U_w ) \quad \dots\dots (8)$$

where  $Y_1$  = unirrigated area under wheat in year  $t$

$P_w$  = price of wheat relative to prices of barley, gram and sugarcane, in year  $t-1$  ( Since harvest prices were not available, wholesale prices at harvest time were used ).

$U_w$  = net cropped area unirrigated.

The relevant data are presented in Table A 7.3. The results of the regression are summarized below.

Equation	Regression Coefficients of		$R^2$
	$P_w$	$U_w$	
(7)	0.016 (0.092)	0.697 (0.118)	0.860
(8)	—	0.688 (0.098)	0.859

The figures in brackets are standard errors.

Price was not a significant variable.

Irrigated wheat :— The models were the same as above except that instead of unirrigated wheat area and net cropped area, irrigated-area figures were used.

The data are given in Table A 7.3. The results are :

Equation	Regression Coefficients of		$R^2$
	$P_w$	$I_w$	
(9)	-0.026 (0.070)	0.235 (0.152)	0.27
(10)	—	0.241 (0.144)	0.26

where the dependent variable  $Y'_1$  is the irrigated area under wheat; the independent variable  $I_w$  is the total cropped area irrigated.  $P_w$  is described earlier.

Price turns out non-significant. But irrigated area also is non-significant. The complete lack of significance in case of irrigated wheat may be due to the fact that expansion of irrigation in, say, eastern U. P. will not affect wheat area, since that is a rice-growing region. Even the price relation between, say, sugarcane and wheat may not appear to influence irrigated wheat because of these extraneous factors in the data. It was, however, not possible for us to obtain these data separately for the different regions of U. P., during the time at our disposal.

(C) Madhya Pradesh :—Similar analysis was carried out in the case of Madhya Pradesh, using net cropped area, relative price, and rainfall at sowing-time as independent variables. Various models were tried out. However, the only really solid factor turned out to be total net cropped area, which explained more than 80 per cent of the variation in acreage under wheat. The models and statistical details are not presented here. Only the data about acreage and relative prices are presented in Table A 7.4.

**Table A 7.1 : Irrigated area under wheat, total irrigated area and relative price of wheat in the Punjab**

<i>Year (July– June)</i>	<i>Irrigated area under wheat ('000 acres)</i>	<i>Relative price of wheat * (Ratio)</i>	<i>Net irrigated area sown ( ' 000 acres)</i>	<i>Irrigated area sown more than once (' 000 acres)</i>	<i>Gross irri- gated area sown (' 000 acres)</i>
1950–51	2170	12.41	6403	1024	7427
1951–52	2417	10.15	6519	1327	7846
1952–53	2473	10.88	7123	927	8050
1953–54	2436	9.22	7478	824	8302
1954–55	2540	11.25	8124	825	8949
1955–56	2549	15.03	8062	979	9041
1956–57	2517	13.69	7459	1684	9143
1957–58	2463	12.52	7392	1754	9146
1958–59	2503	12.34	7361	2153	9514
1959–60	2698	11.14	7408	2148	9556
1960–61	2770	11.15	7636	1965	9601
1961–62	2895	10.55	7609	2270	9879

\* Harvest price of wheat as a proportion of weighted average harvest price of barley, gram, sugarcane and American cotton (weights being proportional to their values in 1952-53). Price during year  $t$  shown in the table against year  $(t + 1)$ , in this and the following 3 tables.

Table A 7.2 : *Unirrigated area under wheat, total unirrigated area and relative price of wheat in the Punjab*

<i>Year ( July- June</i>	<i>Unirrigated area under wheat ( ' 000 acres )</i>	<i>Relative price of wheat* ( Ratio )</i>	<i>Net unirrigated area sown ( ' 000 acres )</i>	<i>Unirrigated area sown more than once ( '000 acres )</i>
1950-51	1868	14.63	10410	2078
1951-52	1712	11.06	9349	1288
1952-53	1482	11.42	8914	1910
1953-54	1661	9.36	9416	2458
1954-55	1894	12.57	9297	3911
1955-56	2313	17.38	9732	4727
195-57	2448	14.78	10650	3993
1957-58	2446	13.55	10678	3817
1958-59	2848	13.18	11127	3886
1959-60	2620	11.93	11071	3370
1960-61	2621	12.03	10704	3743
1961-62	2641	11.30	10995	3185

\* This is calculated in the same way as described in the note to table A 7.1, except for the fact that only gram and barley are the competing crops here.

Table A 7.3 : *Acreege under wheat and relative price of wheat in Uttar Pradesh*

Year	Acreege under wheat ( '000 acres )			Net cropped area ( '000 acres )		Total irrigated area under all crops ( '000 acres )	Relative price of wheat * ( Per cent )
	Irrigated	Unirrigated	Total	Unirrigated	Total		
1952-53	4134	4207	8341	28526	40784	13475	131.3
1953-54	4623	4607	9230	28372	40959	13681	135.5
1954-55	4593	4702	9295	29240	41572	13617	105.3
1955-56	4571	5394	9965	29436	41671	13260	120.2
1956-57	4189	5791	9980	30393	41813	12467	119.3
1957-58	4133	5127	9260	29430	41630	13333	125.4
1958-59	4217	5347	9564	29998	42120	13237	125.8
1959-60	4425	5141	9566	29603	42340	14087	115.4
1960-61	4418	5315	9733	29949	42470	13760	109.9
1961-62	4097	6034	10131	30715	42718	13097	113.8

\* The price of wheat is shown as relative to the weighted average price of barley, gram and sugarcane. As the harvest prices are not available, the averages of the wholesale prices during the harvesting period are used.

Table A 7.4 : *Acreage under wheat, net cropped area and relative price of wheat in Madhya Pradesh*

<i>Year</i>	<i>Area under wheat ( '000 acres )</i>	<i>Net cropped area ( '000 acres )</i>	<i>Relative price of wheat * ( Per cent )</i>
1952-53	49	363	N. A.
1953-54	53	375	112
1954-55	59	382	120
1955-56	70	386	156
1956-57	80	384	134
1957-58	63	377	131
1958-59	69	388	131
1959-60	78	396	98
1960-61	76	398	116
1961-62	78	402	102

\* See note to Table A 7.1. Here the price of wheat is shown as relative to that of gram. The harvest prices prior to 1957-58 refer to the pre-reorganized State of Madhya Pradesh.

Table A 7.5 : Area under different cereals and total cropped area in the principal wheat-producing states in India

Year July-June	Punjab									Net cropped area
	Rice	Wheat	Jowar	Bajra	Maize	Barley	Total cereals	Gram	Gross cropped area	
1952-53	610 (100)	3955 (100)	761 (100)	3076 (100)	980 (100)	472 (100)	9891 (100)	3429 (100)	18874 (100)	16037 (100)
1953-54	648 (106)	4097 (104)	822 (108)	3056 ( 99)	977 (100)	566 (120)	10197 (103)	3976 (116)	20176 (107)	16894 (105)
1954-55	654 (107)	4434 (112)	613 (81)	2454 (80)	958 (98)	617 (131)	9762 (99)	5886 (172)	22157 (117)	17421 (109)
1955-56	680 (111)	4862 (123)	702 (92)	2575 ( 84)	1004 (102)	556 (118)	10427 (105)	6310 (184)	23500 (125)	17794 (111)
1956-57	749 (123)	4965 (126)	668 (88)	2436 ( 79)	1091 (111)	501 (106)	10672 (108)	6041 (176)	23786 (126)	18109 (113)
1957-58	802 (131)	4909 (124)	777 (102)	2293 ( 75)	1144 (119)	580 (123)	10820 (109)	5855 (171)	23641 (125)	18070 (113)
1958-59	901 (148)	5351 (135)	738 (97)	2395 ( 78)	1240 (126)	523 (111)	11204 (113)	6460 (188)	24527 (130)	18488 (115)
1959-60	980 (161)	5318 (134)	675 (89)	2145 ( 70)	1314 (134)	523 (111)	11013 (111)	6190 (181)	23997 (127)	18479 (115)
1960-61	1084 (178)	5391 (136)	783 (103)	2289 ( 74)	1348 (137)	469 ( 99)	11399 (115)	5919 (173)	24048 (127)	18340 (114)
1961-62	1103 (181)	5536 (140)	773 (102)	2178 ( 71)	1296 (132)	467 ( 99)	11397 (115)	5625 (164)	24059 (127)	18604 (116)

Source : Statistical Abstract for Punjab

Areas under Ragi and small millets are negligible.

Figures in brackets are relatives with 1952-53=100

Table A 7.5. Area under different cereals and total cropped area in the principal wheat-producing states in India (contd.)

<i>Uttar Pradesh</i>												
('000 acres)												
<i>Year July- June</i>	<i>Rice</i>	<i>Wheat</i>	<i>Jowar</i>	<i>Bajra</i>	<i>Maize</i>	<i>Barley</i>	<i>Ragi</i>	<i>Small millets</i>	<i>Total cereals</i>	<i>Gram</i>	<i>Gross cropped area</i>	<i>Net cropped area</i>
1952-53	8848 (100)	8341 (100)	2473 (100)	2729 (100)	2126 (100)	4801 (100)	464 (100)	1670 (100)	31452 (100)	6010 (100)	49320 (100)	40784 (100)
1953-54	9053 (102)	9230 (111)	2274 ( 92)	2813 (103)	2534 (119)	5084 (106)	474 (102)	1641 ( 98)	33103 (105)	6592 (110)	50632 (102)	40959 (100)
1954-55	9090 (103)	9295 (111)	2506 (101)	2884 (106)	2594 (122)	4808 (100)	483 (104)	1748 (105)	33408 (106)	6567 (109)	51395 (104)	41572 (102)
1955-56	9298 (105)	9965 (119)	2170 ( 88)	2738 (100)	2371 (112)	4866 (101)	465 (100)	1475 ( 88)	33348 (106)	6715 (112)	51925 (105)	41671 (102)
1956-57	9531 (108)	9980 (120)	2209 ( 89)	2781 (102)	2506 (118)	4934 (103)	466 (100)	1512 ( 91)	33919 (108)	6147 (102)	52766 (107)	41813 (103)
1957-58	9629 (109)	9260 (111)	2114 ( 85)	2680 ( 98)	2677 (126)	4389 ( 91)	484 (104)	1481 ( 89)	32714 (106)	6360 (106)	52036 (106)	41630 (102)
1958-59	10206 (115)	9564 (115)	2260 ( 91)	2667 ( 98)	2702 (127)	4591 ( 96)	485 (105)	1620 ( 97)	34095 (108)	6726 (112)	53796 (109)	42120 (103)
1959-60	10047 (114)	9566 (115)	2218 ( 90)	2619 ( 96)	2698 (127)	4508 ( 94)	478 (103)	1591 ( 95)	33725 (107)	6657 (111)	53706 (109)	42340 (104)
1960-61	10340 (117)	9733 (117)	2210 ( 89)	2692 ( 99)	2605 (123)	4562 ( 95)	476 (103)	1532 ( 92)	34150 (109)	6307 (105)	53696 (109)	42470 (104)
1961-62	10313 (117)	10131 (121)	2115 ( 86)	2395 ( 88)	2683 (126)	4508 ( 94)	467 (101)	1426 ( 85)	34038 (108)	6366 (106)	54726 (111)	42718 (105)

Source : *Monthly Bulletin of Statistics*, U. P.

Figures in brackets are relatives with 1952-53=100.

Table A 7.5. : Area under different cereals and total cropped area in the principal wheat-producing states in India (contd.)

<i>Madhya Pradesh</i>											
('000 acres)											
Year (July-June)	Rice	Wheat	Jowar	Bajra	Maize	Barley	Ragi and small millets	Total cereals	Gram	Gross cropped area	Net cropped area
1952-53	9308 (100)	4939 (100)	5164 (100)	497 (100)	1013 (100)	379 (100)	3437 (100)	24737 (100)	3356 (100)	40380 (100)	36336 (100)
1953-54	9406 (101)	5260 (107)	5610 (109)	522 (105)	1047 (103)	375 (99)	3718 (108)	25938 (105)	3448 (103)	41548 (103)	37540 (103)
1954-55	9319 (100)	5870 (119)	5288 (102)	517 (104)	1016 (100)	409 (108)	3823 (111)	26242 (106)	3400 (101)	42403 (105)	38191 (105)
1955-56	9426 (101)	6963 (141)	4769 (92)	472 (95)	1033 (102)	453 (120)	3849 (112)	26965 (109)	3676 (110)	43392 (107)	38584 (106)
1956-57	9618 (103)	8009 (162)	4063 (79)	425 (86)	1064 (105)	509 (134)	3595 (105)	27283 (110)	3809 (114)	43572 (108)	38352 (106)
1957-58	9690 (104)	6287 (127)	4874 (94)	436 (88)	1105 (109)	301 (79)	3539 (103)	26232 (106)	3621 (108)	40972 (101)	37666 (104)
1958-59	9838 (106)	6920 (140)	4806 (93)	439 (88)	1120 (111)	430 (113)	3652 (106)	27205 (110)	3700 (110)	43813 (109)	38786 (107)
1959-60	10061 (108)	7821 (158)	4534 (88)	402 (81)	1135 (112)	464 (122)	3641 (106)	28058 (113)	4112 (123)	44932 (111)	39555 (109)
1960-61	10182 (109)	7632 (155)	5191 (101)	432 (87)	1161 (115)	485 (128)	3533 (103)	28616 (116)	2689 (80)	44959 (111)	39794 (110)
1961-62	10299 (111)	7837 (159)	4827 (93)	410 (82)	1163 (115)	501 (132)	3407 (99)	28444 (115)	3827 (114)	45731 (113)	40158 (111)

Source : Season and Crop Reports for Madhya Pradesh.  
 Figures in brackets are relatives with 1952-53 = 100.

Table A 7.5. Area under different cereals and total cropped area in the principal wheat-producing states in India (contd.)

<i>Rajasthan</i>											
('000 acres )											
<i>Year</i> ( July-June )	<i>Rice</i>	<i>Wheat</i>	<i>Jowar</i>	<i>Bajra</i>	<i>Maize</i>	<i>Barley</i>	<i>Small millets</i>	<i>Total cereals</i>	<i>Gram</i>	<i>Gross cropped area</i>	<i>Net cropped area</i>
1952-53	161 (100)	1691 (100)	2151 (100)	6850 (100)	1064 (100)	1022 (100)	207 (100)	13146 (100)	1292 (100)	27049 (100)	25709 (100)
1953-54	169 (105)	1957 (116)	2700 (126)	8647 (126)	1307 (123)	1213 (119)	266 (129)	16259 (124)	1831 (142)	28069 (104)	26690 (104)
1954-55	157 ( 98)	2249 (133)	2748 (128)	8042 (117)	1332 (125)	1398 (137)	221 (107)	16147 (123)	2959 (229)	29505 (109)	27324 (106)
1955-56	169 (105)	2403 (142)	2863 (133)	8948 (131)	1335 (125)	1372 (134)	193 ( 93)	17283 (131)	3234 (250)	31006 (115)	28303 (110)
1956-57	230 (143)	3347 (198)	2109 ( 98)	9303 (136)	1238 (116)	1447 (142)	185 ( 89)	17859 (136)	3813 (295)	33880 (125)	30702 (119)
1957-58	169 (105)	2638 (156)	2607 (121)	9575 (140)	1449 (136)	1253 (123)	174 (84)	17865 (136)	3061 (237)	31984 (118)	29906 (116)
1958-59	195 (121)	2922 (173)	2729 (127)	9935 (145)	1434 (135)	1325 (130)	208 (100)	18749 (143)	3927 (304)	33921 (125)	31104 (121)
1959-60	247 (153)	3033 (179)	2606 (121)	9393 (137)	1493 (140)	1371 (134)	168 ( 81)	18257 (139)	4247 (329)	35748 (132)	32656 (127)
1960-61	242 (150)	2643 (156)	2565 (119)	11410 (167)	1604 (151)	1210 (118)	194 ( 94)	19868 (151)	3406 (264)	34627 (128)	32400 (126)
1961-62	243 (151)	3115 (184)	2945 (137)	10688 (156)	1651 (155)	1361 (133)	207 (100)	20210 (154)	4009 (310)	N. A. —	N. A. —

Source : Season and Crop Reports.

Figures for *Ragi* are not available.

Figures in brackets are relatives with 1952-53=100.

N. A. : Not available.

Table A 7.5. : Area under different cereals and total cropped area in the principal wheat-producing states in India (contd.)

Year (July-June)	Maharashtra-Gujarat								('000 acres)		
	Rice	Wheat	Jowar	Bajra	Maize	Barley	Ragi	Small millets	All cereals	Gross cropped area	Net cropped area
1952-53	3880 (100)	2374 (100)	17563 (100)	9267 (100)	520 (100)	34 (100)	634 (100)	1176 (100)	35448 (100)	65679 (100)	63638 (100)
1953-54	3996 (103)	2780 (117)	17826 (101)	10134 (109)	553 (106)	38 (112)	626 (99)	1153 (98)	37106 (105)	68686 (105)	66032 (104)
1954-55	4062 (105)	2850 (120)	17736 (101)	9578 (103)	504 (97)	36 (106)	638 (101)	1123 (95)	36527 (103)	69347 (106)	66462 (104)
1955-56	4019 (104)	3249 (137)	17354 (99)	8827 (95)	557 (107)	36 (106)	667 (105)	1099 (93)	35808 (101)	69604 (106)	66750 (105)
1956-57	4099 (106)	3462 (146)	17205 (98)	8699 (94)	463 (89)	37 (109)	670 (106)	1065 (91)	35700 (101)	70362 (107)	67225 (106)
1957-58	4143 (107)	3305 (139)	17237 (99)	8264 (89)	434 (83)	29 (85)	710 (112)	909 (77)	35031 (99)	69352 (106)	66714 (105)
1958-59	4161 (107)	3184 (134)	17666 (101)	8461 (91)	503 (97)	29 (85)	717 (113)	928 (79)	35649 (101)	70673 (108)	67438 (106)
1959-60	4239 (109)	3412 (144)	17405 (99)	7929 (86)	529 (102)	26 (76)	712 (112)	1008 (86)	35260 (99)	N. A.	N. A.
1960-61	4336 (112)	3273 (138)	17355 (99)	7459 (80)	537 (103)	26 (76)	674 (106)	907 (77)	34567 (98)	N. A.	N. A.
1961-62	4528 (117)	3168 (133)	17527 (100)	7339 (79)	605 (116)	31 (91)	695 (110)	869 (74)	34762 (98)	N. A.	N. A.

Source : Season and Crop Reports.

Figures in brackets are relatives with 1952-53=100.

N. A. : Not available.

Table A 7.6 : *Share of Rabi cereals in the area under all cereals and all crops*

Year (July- June)	Punjab		Uttar Pradesh		Madhya Pradesh	
	Rabi cereals as % of all cereals	Rabi crops as % of all crops	Rabi cereals as % of all cereals	Rabi crops as % of all crops	Rabi cereals as % of all cereals	Rabi crops as % of all crops
1952-53	44.8	54.7	41.8	N. A.	21.5	N. A.
1953-54	45.7	56.4	43.2	49.0	21.7	N. A.
1954-55	51.7	63.8	42.2	47.5	23.9	N. A.
1955-56	52.0	64.0	44.5	49.2	27.5	N. A.
1956-57	51.2	62.6	44.0	48.1	31.2	41.3
1957-58	50.7	62.0	41.7	47.4	25.1	35.0
1958-59	52.4	64.2	41.5	47.7	27.0	37.6
1959-60	53.0	64.5	41.7	47.4	29.5	40.3
1960-61	51.4	63.0	41.9	47.1	28.4	38.6
1961-62	52.7	62.9	43.0	N. A.	29.3	39.1

Source : *Bulletin of Economics and Statistics* of the state governments concerned.  
N. A. : Not available.

Table A 7.7 : Consumption of nitrogenous fertilizers in India

( In tons of nitrogen )

State	1953- 54	1954- 55	1955- 56	1956- 57	1957- 58	1958- 59	1959- 60	1960- 61	1961- 62	1960-61 per acre consumption in lb. *
Andhra Pradesh (a)	—	—	—	18588	21565	24430	28263	25131	51638	1.8
Assam	—	—	—	—	—	—	1198	—	352	0.1
Bihar	4552	4224	6000	6733	5024	7135	14615	11171	15104	0.8
Maharashtra & Gujarat	—	—	—	—	—	—	38254	32490	44094	0.5(d)
Jammu and Kashmir	—	—	—	—	—	—	907	851	811	—
Kerala	1933	1944	2254	2714	3552	3731	5284	6004	9043	2.0
Madhya Pradesh (b)	1614	1842	1971	2916	4840	5793	9560	5490	6451	0.3
Madras	13507	18087	20670	25405	22947	26714	30245	23562	37773	3.0
Mysore (c)	2400	2988	2864	5378	7049	9467	8864	14539	22369	1.0
Orissa	1608	2100	2040	2360	2940	3246	5198	4327	6650	—
Punjab	3739	4752	—	5939	7311	6867	4559	6543	15184	0.7
Rajasthan	—	—	—	—	—	—	2760	2423	5083	0.2
Uttar Pradesh	—	—	—	19307	19249	28351	42377	36114	33937	1.5
West Bengal	248	—	—	—	—	—	9046	7918	15853	—

Notes — means data were not available

(a) The state was formed in 1956-57.

(b) Does not include quantities distributed by the Department of Agriculture.

(c) Does not include quantity distributed by the dealers and mixing-firms either in straight form or in mixture.

(d) The figure relates to Gujarat only.

\* Figures for states other than those given, varied between 0.1 to 1.8.

Source :— (1) For years 1953-54 to 1958-59 — *Report of the Fertilizer Distribution Enquiry Committee, 1960, p. 101.*

(2) For years 1959-60 to 1961-62 — Computed from *Fertilizer Statistics, 1960-61.*

Table A 7.8 : *Index of the terms of trade of the Punjab farmers*

Year	Whole- sale price of wheat	Harvest price of wheat	Index of wholesale price	Index of harvest price	Index of prices received	Index of prices paid	Index of parity	Index of wheat parity	
								(3)/(6) × 100	(4)/(6) × 100
	1	2	3	4	5	6	7	8	9
1952-53	13.46	14.50	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1953-54	14.72	14.12	109.4	97.4	101.3	98.6	102.7	111.0	98.8
1954-55	13.48	12.12	100.1	83.6	82.4	90.3	91.3	110.9	92.6
1955-56	12.99	11.21	96.5	77.3	91.6	91.1	100.6	105.9	84.9
1956-57	15.57	14.06	115.7	97.0	107.7	102.4	105.3	113.0	97.7
1957-58	14.85	13.52	110.3	93.2	101.4	103.0	98.4	107.1	90.5
1958-59	17.33	14.49	128.8	99.9	122.6	117.0	104.8	110.1	85.4
1959-60	15.81	13.53	117.5	93.3	110.8	115.1	96.2	102.1	81.1
1960-61	15.51	14.94	115.2	103.0	111.1	114.9	96.7	100.2	89.6
1961-62	15.26	14.04	113.4	96.8	108.9	122.2	89.1	92.8	79.2

Source : Columns 5, 6 and 7 are taken from "Index numbers of parity (statistical analysis) between prices received and paid by the farmer in the Punjab 1961-62", after appropriately adjusting for the change in base. Column 2 is from the Season and Crop Reports of the Punjab Government, and column 1 from the Directorate of Economics and Statistics, Ministry of Food and Agriculture, Government of India.

## CHAPTER VIII

### COTTON IMPORTS UNDER P. L. 480

The only other important commodity besides foodgrains, imported under P. L. 480, was cotton. The details of the agreements relating to cotton are given below :

<i>Date of agreement</i>	<i>Value</i> ( \$ million )	<i>Approximate quantity</i> ( in lakh bales of 392 lb. net )
1. 29th August 1956	42.00	3.02
2. 13th November 1959	45.20	4.29
3. 4th May 1960	73.20	8.57
4. 1st May 1962	27.00	2.24
5. 26th November 1962	44.50	3.73
Total	231.90	21.85

Out of the total quantity, India had imported 17.14 lakh bales by the end of December 1962. This accounted for nearly 40 per cent of India's total cotton imports during the six years of imports under P. L. 480. It was 88 per cent of the total American cotton imported by India during these years ( Table 8.1).

As in the case of foodgrains, there is no free trade in cotton import and export in India. But unlike foodgrains, cotton is imported by private parties (chiefly the consuming mills) under licence for quotas granted by the Government. In regard to P. L. 480 cotton the same procedure was followed.

Before the beginning of imports under P. L. 480, India was importing on an average 6.5 lakh bales of cotton every year, the U. S. share in it being around 1 lakh bales. There was a slow but steady decline perceptible in India's imports of cotton.

This declining trend was very evident during the first three years of imports under P. L. 480, 1956-57 to 1958-59. However, there was a distinct change in the pattern of imports. American cotton had gained in importance and formed nearly 40 per cent of total imports. More than half of it was P. L. 480 cotton, while the average level of commercial imports from the U. S. A. remained more or less unchanged during the three years. The decline was noticeable in imports from other countries, particularly from Egypt and East Africa. Egyptian cotton is of superior long-staple variety (with staple length

Table 8.1 : *Import of foreign cotton into India by countries—1951-52 to 1961-62*

(In thousand bales of 392 lb. each)

Description	1951-	1952-	1953-	1954-	1955-	Average of		1957-	1958-	1959-	1960-	1961-	Average of
	52	53	54	55	56	1952-	1956-	58	59	60	61	62	1956-
						56	57						62
1. American	889	91	188	102	19	100	344	148	93	416	650	303	326
1a. P. L. 480*	—	—	—	—	—	—	—	319	—	400	624	176	286
1b. (1a) as % of (1)	—	—	—	—	—	—	—	(55)	—	(96)	(96)	(55)	(88)
2. Egyptian	136	261	266	152	219	225	56	66	68	210	87	95	97
3. Sudanese	52	91	36	82	132	85	68	80	126	130	85	199	115
4. East African	143	275	181	288	227	243	135	127	197	173	149	163	157
5. Pakistan	—	—	—	—	—	—	—	—	—	34	3	91	21
6. Others	9	—	—	2	10	3	5	1	7	23	40	30	18
Total	1229	718	671	626	607	656	608	422	491	986	1014	881	734
P. L. 480 as % of total	—	—	—	—	—	—	—	21	—	40	62	20	39

\*The P. L. 480 import years are July-June, while the rest are September-August.

Source : *Bombay Cotton Annual*, Vols. 1959-60 to 1961-62, East India Cotton Association Ltd., Bombay.

about 1 3/16"), and the East African cotton was of the same variety as American cotton. While the average total cotton imports during the first three years of P. L. 480 amounted to around five lakh bales a year, i. e. on an average about 1.5 lakh bales less than in the earlier years, the imports other than under P. L. 480 came to about four lakh bales only. It is likely that P. L. 480 imports affected cotton imports particularly from East Africa, during the first three years, to a certain extent.

Cotton imports increased considerably during the subsequent three years 1959-62. The bulk of it was under P. L. 480. Practically all the imports of American cotton in 1959-60 and 1960-61 were under P. L. 480 and accounted for 40 and 60 per cent of the total cotton imports during these two years respectively. Imports from other countries increased somewhat, particularly from Sudan, which might be said to have replaced Egyptian cotton to a certain extent. But still imports of cotton from other than P. L. 480 sources during these three years were less than in the four years before P. L. 480.

Table 8.2 shows the total supply and use of cotton, and the place of imported cotton in it, during the years 1951-62. Production of cotton in India increased continuously till 1956-57 after which it appears to have stagnated. Imported cotton including that under P. L. 480, was used for maintaining consumption level in the earlier years and for increasing consumption in the years since 1960-61.

The bulk of the cotton produced in India was used by the mills for manufacturing yarn and textile goods. Exports of raw cotton formed a small part of the total production. Since 1956-57 they had remained more or less unchanged.

Production of raw cotton in India continued to increase till 1957. There was a simultaneous increase in consumption of cotton by mills. The dependence on imports of foreign cotton was gradually reduced. Since 1956-57, however, production of Indian cotton did not show any significant increase.<sup>1</sup>

The imports of foreign cotton in the three years 1956-59 were on an average less than in the earlier four years. There was no notable change in total consumption of cotton by mills in India during these three years. The imports under P. L. 480 were used over these years for keeping up the level of consumption of foreign cotton by the mills in India. There were no marked changes in the stocks of foreign cotton with the mills. The bulk of P. L. 480 cotton was imported in 1956-57, while its consumption was spread over two years.

<sup>1</sup> Three different estimates of production of cotton in India are presented in Table 8.3. While there are significant differences in these figures, whichever series is chosen, a stagnancy in cotton production after 1956-57 is clearly seen.

Table 8.2 : Total supply and use of cotton in India

( In lakh of bales of 392 lb. )

E. 24

	1951- 52	1952- 53	1953- 54	1954- 55	1955- 56	1956- 57	1957 58	1958- 59	1959- 60	1960- 61	1961- 62
Estimated carry-over on 1st September.											
With mills	15.4	16.5	12.6	12.1	16.2	16.1	13.4	12.7	14.4	13.5	18.1
With trade	5.8	9.3	6.3	9.4	10.7	4.4	6.3	9.3	5.8	1.2	3.8
	21.2	25.8	18.9	21.5	26.9	20.5	19.7	22.0	20.2	14.7	21.9
Estimated Indian cotton crop	37.6	36.7	45.8	52.9	46.0	51.2	54.2	51.2	41.0	56.7	50.0
Imports	12.4	6.8	6.9	6.1	6.1	6.2	4.2	4.9	9.9	10.6	8.7
Total supply	71.2	69.3	71.6	80.5	79.0	77.7	78.1	78.1	71.1	82.0	80.6
Mill consumption in India -											
Indian	29.9	36.1	38.9	41.4	43.7	46.6	44.3	46.2	44.2	42.5	41.7
Foreign	10.8	8.5	7.2	6.3	6.0	5.7	5.7	4.5	6.8	11.3	9.8
	40.7	44.6	46.1	47.7	49.7	52.3	50.0	50.7	51.0	53.8	56.9
Ambar Charkha and Surgical Dressing											
Factories consumption	—	—	—	—	—	—	0.5	0.5	0.5	0.7	0.7
Exports	2.0	3.1	1.3	3.2	6.1	3.0	2.9	4.0	2.1	2.9	3.3
Extra factory consumption	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7	2.7
Total offtake	45.4	50.4	50.1	53.6	58.5	58.0	56.1	57.9	56.3	60.1	63.6
Carry-over on 31st August											
With mills	16.5	12.6	12.1	16.2	16.1	13.4	12.7	14.4	13.7	18.1	14.6
With trade	9.3	6.3	9.4	10.7	4.4	6.3	9.3	5.8	1.1	3.8	2.4
	25.8	18.9	21.5	26.9	20.5	19.7	22.0	20.2	14.8	21.9	17.0

Note : Since 1960-61 in bales of 180 kgs.

Source : Bombay Cotton Annual, 1959-60 and 1961-62.

Table 8.3 : *Different estimates of cotton production in India*

Year ( Sept.-August )	( In lakhs of bales )		
	I. C. C.*	Trade†	Government‡
1951-52	38.1	37.6	31.3
1952-53	36.7	36.7	31.3
1953-54	45.8	45.8	39.7
1954-55	52.9	52.9	42.3
1955-56	44.6	46.0	40.0
1956-57	50.0	51.2	47.6
1957-58	51.7	54.2	47.4
1958-59	51.4	51.2	46.9
1959-60	42.3	41.0	36.8
1960-61	N. A.	56.7	53.9
1961-62	N. A.	50.0	45.0

\*Estimated by the Indian Central Cotton Committee.

† These are trade estimates published in the Bombay Cotton Annual of the East India Cotton Association, Ltd., Bombay . These data are used in Table 8.2.

‡ These data are published by the Directorate of Economics and Statistics Ministry of Food and Agriculture.

The year 1959-60 saw a sharp decline in production of cotton. Therefore, India went in for increased imports, most of it under P. L. 480, and some from Egypt. The level of mill consumption was kept up this year through high imports and by drawing down the stocks of cotton with the mills. A sizeable part of the import, particularly P. L. 480 cotton, was also carried forward as stocks with mills.<sup>2</sup> Since this cotton was used for replenishing the run-down stocks of indigenous cotton, the share of imported cotton in the total stocks also increased this year.

The year 1960-61 saw a sharp rise in cotton production, thanks to very favourable weather conditions. At the same time cotton imports also reached a peak during the year, almost the entire increase being under P. L. 480. The increased availability of cotton resulted in increased consumption by the mills. However, it is interesting to note that the increased consumption by mills was mainly of imported cotton. The increased production of Indian cotton was used mainly to replenish the stocks of Indian cotton with the mills, which had run down in the previous year. The entire amount of foreign cotton imported that year and a part of the stocks of foreign cotton were used for consumption in 1960-61. In 1961-62, while production of Indian cotton was around the average for the previous five years, consumption by mills increased mainly with the help of imported cotton. Stocks of imported cotton were naturally somewhat reduced, compared to the high levels of the previous two years.

<sup>2</sup> For detailed data on stocks with mills see Table 8.6.

Thus, it is seen that the increased imports in the years since 1959-60 mainly resulted in increased consumption of foreign and total cotton by mills in India. The addition to stocks was only a short-period phenomenon, resulting from uneven flow of imports over the years.

In the past the bulk of cotton imported by India had been of the long-staple variety. The partition of India in 1947, resulted in the inclusion of large cotton-tracts in West Pakistan. A large part of this area was given to long-staple cotton. Therefore, while domestic production of long-staple cotton increased considerably in the country during the years, the imports of foreign cotton of the long-staple variety had to be quite large.

Though the official statistics (Table 8.4) did not indicate any increase in the production of long-staple cotton since 1956-57, the data on mill consumption of long-staple Indian cotton (Table 8.5) show some increase in the years 1959-62. If the latter is considered a better indicator of trends in production, long-staple cotton may be said to have registered slight increase in production in recent years.

Table 8.4 : *Production of different varieties of cotton in India*

Year	Production of cotton ('000 bales of 392 lb.)				
	Short staple	Medium staple	Long staple	Superior long staple	Total
1951-52	992	1223	863	55	3133
1952-53	831	1395	839	66	3131
1953-54	872	1641	1339	103	3965
1954-55	790	1908	1412	117	4227
1955-56	662	1762	1272	305	4001
1951-56 ( Average )	829	1588	1145	129	3691
1956-57	707	2150	1549	329	4735
1957-58	799	1969	1633	388	4739
1958-59	830	2088	1386	382	4686
1959-60	589	1231	1431	427	3678
1960-61	768	2180	2068	374	8390
1956-61 ( Average )	739	1923	1614	370	4646
1961-62	843	1784	1485	388	4500

Source : Directorate of Economics and Statistics, Ministry of Food and Agriculture.

Note : Short staple = 11/16" and less  
 Medium staple = above 11/16" and below 7/8"  
 Long staple = 7/8" to 1"  
 Superior long staple = above 1"

Table 8.5 : Mill consumption of Indian and foreign cotton in India

(In thousand bales of 392 lb.)

Description	1951-	1952-	1953-	1954-	1955-	1951-	1956-	1957-	1958-	1959-	1960-	1956-	1961-
	52	53	54	55	56	56	57	58	59	60	61	61	62
	(Average)					(Average)							
Long staple	855	1024	1046	1505	1815	1249	2079	1902	1898	2515	1906	2060	2597
Medium staple	1926	2334	2560	2352	2295	2293	2327	2279	2466	1678	2149	2180	1895
Short staple	206	253	283	281	256	256	260	252	252	226	191	236	217
Total Indian	2987	3611	3889	4138	4366	3798	4666	4433	4616	4419	4246	4476	4709
Egyptian	158	199	279	196	187	204	93	67	80	141	118	100	113
Sudanese	62	58	66	51	123	72	84	91	95	125	121	103	179
Peruvian	16	7	5	7	5	8	15	6	1	1	2	5	2
Total—1-3/16" and above	236	264	350	254	315	284	192	164	176	267	241	208	294
Pakistan	4	1	—	5	—	3	—	—	—	22**	17**	8	41**
East African	163	216	212	217	252	212	166	151	186	156	171	166	176
American	679	367	154	149	27	275	200	246	92	222*	663*	284	439*
Others	2	1	3	6	9	4	9	5	1	19	35	14	29
Total — 1-1/16" to 1-3/16"	848	585	369	377	288	494	375	402	279	419	886	472	685
Total foreign	1084	849	719	631	603	778	567	566	455	686	1127	680	979
Grand Total	4071	4460	4608	4769	4969	4576	5233	4999	5071	5105	5373	5156	5688

\* Includes 50,000, 3,39,000 and 3,26,000 bales of staple length 1" and less during 1959-60, 1960-61 and 1961-62, respectively.

\*\* 1" and less.

Long staple = 7/8" and above.

Medium staple = below 7/8" and above 11/16".

Short staple = 11/16" and below.

Source : Bombay Cotton Annual and Cotton in India (I.C.C. C.)

Table 8.6 : Stocks of Indian and Foreign Cotton with Mills in India

	( In thousand bales of 392 lb. )										
	1951-	1952-	1953-	1954-	1955-	1956-	1957-	1958-	1959-	1960-	1961-
	52	53	54	55	56	57	58	59	60	61	62
<i>Indian</i>											
Long staple	367	318	316	511	633	543	514	593	622	732	595
Medium staple	738	636	632	874	720	534	572	645	326	654	571
Short staple	110	59	63	58	55	43	50	41	14	27	51
Total	1260	1013	1011	1443	1408	1120	1136	1279	962	1413	1217
<i>Foreign</i>											
<i>1-3/16" and above</i>											
Egyptian	43	77	69	30	56	21	24	14	62	45	26
Sudanese	12	29	11	35	45	25	23	52	61	40	62
Peruvian	7	3	1	2	1	5	1	1	Neg.	1	1
Total	62	109	81	67	102	51	48	67	123	86	89
<i>Between 1-1/16" and 1-3/16"</i>											
Pakistan	1	1	—	Neg.	—	—	—	—	12	1	52
East African	47	92	57	93	89	54	46	50	66	56	28
American	281	43	63	18	8	117	44	40	190	247	67
Others	Neg.	1	Neg.	2	6	2	Neg.	3	13	12	6
Total	329	137	120	113	103	173	91	93	281	316	153
Total foreign	391	246	200	179	205	224	139	160	404	402	242
Grand total ( Indian & foreign )	1651	1259	1211	1622	1613	1344	1275	1439	1366	1815	1459

Neg. : Negligible.

Source : Cotton in India and Indian Textile Industry ( Monthly ).

Imported cotton including P. L. 480 cotton, was mainly of long-staple variety till 1958-59. During the subsequent three years, there was a significant import of cotton of staple length less than 1", from the U. S. A. under P. L. 480. This cotton is of the same sort as Indian medium- and long-staple varieties (while the imported long-staple cotton was generally with staple length of more than 1"). No data on the imports of American cotton according to staple length were available, but it will be seen from Table 8.5 that 50000, 339000 and 326000 bales of American cotton consumed by mills in 1959-60, 1960-61 and 1961-62 respectively, were of less than 1" staple length. This was about 55 per cent of the total American cotton used by mills during the three years. Similarly the following data about import authorizations under P. L. 480 at various dates give an indication of the imports of cotton of less than 1" staple length.

*Import control announcements about cotton import under P. L. 480*

<i>Date of announcement</i>	<i>Stapling below 1"</i> <i>(Quantity in lakh bales of 392 lb.)</i>	<i>Total</i>
November 1959	—	0.30
January 1960	1.80	1.80
August 1960	4.10	6.70
April 1961	3.00	3.00
Total	8.90	11.80

*Source : Bombay Cotton Annual.*

While these authorizations do not indicate actual imports, they suggest that a sizeable portion of the P. L. 480 cotton imported since 1959-60 was of staple length less than 1".

The import of cotton of less than 1" staple length was necessitated by the decline in production in India in 1959-60. Table 8.4 shows that the decline in production was mainly in short- and medium- staple varieties, while there was no significant fall in long-staple and superior long-staple cotton. American cotton of less than 1" staple length was used as a substitute for Indian medium- and long-staple cotton.

Production of medium-staple cotton in India had not increased since 1956-57, but had fluctuated sharply from year to year. P. L. 480 imports partly took the place of this variety since 1959-60, and partly added to the supplies of Indian long-staple cotton.

In regard to cotton of more than 1" staple length (superior long staple), its consumption by mills steadily increased. India does not produce much of

this variety; the bulk of its requirement has all along been imported. The imports, and consequent use by mills of this type of cotton also increased since 1959-60. The increased consumption of extra-long-staple cotton (more than 1-3/16") during these three years was to a large extent due to increased imports from Egypt and Sudan. The consumption of cotton of more than 1" staple length (but less than 1-3/16") was sustained and increased mainly through P. L. 480 imports. (For details of mill consumption and stocks of Indian and foreign cotton of different varieties, see Tables 8.5 and 8.6).

The analysis of production, imports and mill consumption according to the staple length of the fibre, shows that mill consumption of long-staple and superior long-staple cotton considerably increased since 1959-60 in India, and P. L. 480 imports significantly contributed to this. Besides, the P. L. 480 imports substituted Indian medium-staple cotton in years of shortfall in domestic production. The increased use by mills in the three years 1959-62 was due chiefly to imports under P. L. 480.

Trends in production of yarn by the mills in India also reflect the above changes. Table 8.7 shows that not merely did yarn made out of foreign cotton come to acquire a more important position in 1960-61 and 1961-62, but yarn made out of a mixture of foreign and Indian cotton also increased many times, in these two years.

The importance of foreign cotton is also indicated by the fact that the increase in yarn production during the years since 1957-58 was in yarns of more than 20 counts, in which the share of foreign cotton had been rising. Data on production of yarns of different counts, and the relative importance of Indian and foreign cotton in them are given in Table 8.7. From this it appears that production of yarns of less than 20s either stagnated or declined since 1957-58. These yarns are made mainly out of short- or medium-staple Indian cotton. But even here, the share of foreign cotton as mixture with Indian cotton increased in the manufacture of yarns of 11s-20s in 1960-62. This was made possible by the import of medium-staple American cotton under P. L. 480, suitable for mixture with similar Indian cotton. Production of yarns of 20s-40s increased very considerably and the share of imported cotton came to have an increasing place, mainly as mixtures with Indian cotton. Most of this yarn is spun out of medium- and long-staple cotton of less than 1" staple length. The role of P. L. 480 cotton imports is clearly seen in this. Yarn of 40s-and over accounted for about 8 per cent of the total yarn production in the country. It had increased from less than 6 per cent in 1956-57. The rise had been the greatest compared to other counts, about 68 per cent in four years. This yarn is spun mostly out of imported cotton. It is interesting to note that

Table 8.7 : *Count-wise production and export of cotton yarn*

	1956- 57	1957- 58	1958- 59	1959- 60	1960- 61	1961- 62
<i>Total Yarn ( All counts )</i>						
Production ( Million lb. )	1768	1699	1712	1731	1844	1921
Yarn spun out of Indian cotton (%)	86	86	87	81	62	66
Yarn spun out of foreign cotton (%)	9	9	8	9	11	10
Yarn spun out of mixture of Indian & foreign cotton (%)	2	3	3	7	24	21
Exports ( Million lb. )	10	26	35	32	25	27
Exports as % of production	1	2	2	2	1	1
<i>Count Group : 1s - 10s</i>						
Production ( Million lb. )	174	189	184	175	183	210
Production as % of total yarn production	10	11	11	10	10	11
Yarn spun out of Indian cotton (%)	72	78	78	73	69	74
Yarn spun out of foreign cotton (%)	2	1	1	1	1	Neg.
Yarn spun out of mixture of Indian & foreign cotton (%)	—	—	Neg.	Neg.	2	1
Exports ( Million lb. )	3	5	5	3	3	4
Exports as % of production	1	3	3	2	2	2
<i>Count Group : 11s - 20s</i>						
Production ( Million lb. )	789	688	664	600	623	635
Production as % of total yarn production	45	40	39	35	34	33
Yarn spun out of Indian cotton (%)	99	99	99	96	78	84
Yarn spun out of foreign cotton (%)	Neg.	Neg.	Neg.	1	1	1
Yarn spun out of mixture of Indian & foreign cotton (%)	Neg.	1	1	3	20	15
Exports ( Million lb. )	5	17	22	20	13	16
Exports as % of production	1	2	3	3	2	3

Table 8.7 : *Count-wise production and export of cotton yarn ( Contd. )*

	1956- 57	1957- 58	1958- 59	1959- 60	1960- 61	1961- 62
<i>Count Group : 21s - 30s</i>						
Production ( Million lb. )	479	476	502	551	593	593
Production as % of total yarn production	27	28	29	32	32	31
Yarn spun out of Indian cotton (%)	95	93	95	89	62	67
Yarn spun out of foreign cotton (%)	2	2	1	2	5	3
Yarn spun out of mixture of Indian & foreign cotton (%)	3	4	3	9	33	30
Exports ( Million lb. )	1	3	6	4	6	4
Exports as % of production	Neg.	1	1	Neg.	1	1
<i>Count Group : 31s - 40s</i>						
Production ( Million lb. )	234	255	257	278	315	329
Production as % of total yarn production	13	15	15	16	17	17
Yarn spun out of Indian cotton (%)	67	66	75	70	46	47
Yarn spun out of foreign cotton (%)	25	23	15	16	20	9
Yarn spun out of mixture of Indian & foreign cotton (%)	8	10	10	14	32	34
Exports ( Million lb. )	1	2	3	2	1	1
Exports as % of production	Neg.	1	1	1	Neg.	Neg.
<i>Count Group : 40s and above</i>						
Production ( Million lb. )	94	91	105	128	129	153
Production as % of total yarn production	5	5	6	7	7	8
Yarn spun out of Indian cotton (%)	1	2	14	14	13	18
Yarn spun out of foreign cotton (%)	97	94	78	79	79	71
Yarn spun out of mixture of Indian & foreign cotton (%)	Neg.	Neg.	Neg.	1	2	1
Exports ( Million lb. )	1	3	4	3	2	3
Exports as % of production	1	2	2	2	1	1

Source : *Indian Textile Industry*, ( monthly ).

( Neg. : Negligible )

in the four years ended 1961-62 the share of Indian superior long-staple cotton was higher than before.

The increased production of yarn of superior counts and consequently of fine and superfine varieties of cloth, was made possible by the increased imports of cotton under P. L. 480, in recent years. The increased production of textile goods was consumed mainly within the country (See Table 8.8). There was

Table 8.8 : *Average monthly production of cloth in the mills and the decentralized sector*

( In million yards )

<i>Year</i>	<i>Mill Production</i>	<i>Decentralized Sector</i>	<i>Total</i>
1951	340	92	432
1952	383	119	502
1953	407	128	535
1954	416	138	554
1955	425	146	571
1956	442	149	591
1957	443	162	605
1958	411	177	588
1959	410	188	598
1960	421	183	604
1961	428	216	644
1962	416	220	636

Source : *Indian Textile Industry*, ( Monthly )

Table 8.9 : *Monthly average deliveries of mill cloth for different purposes*

( In million yards )

<i>Year</i>	<i>Civil Consumption</i>	<i>Exports</i>	<i>Government &amp; Others</i>	<i>Total</i>
1951	282.1	66.8	3.1	352.0
1952	308.1	61.6	3.3	373.0
1953	323.1	68.4	3.4	394.9
1954	337.3	92.1	3.7	433.1
1955	373.7	69.9	2.4	446.0
1956	348.0	66.8	2.2	417.0
1957	340.3	76.3	2.1	418.7
1958	366.0	53.0	1.7	420.6
1959	374.8	74.1	2.2	451.1
1960	338.4	62.4	2.0	402.8
1961	374.2	52.0	3.0	429.2
1962	351.0	48.3	4.3	403.6

Source : *Indian Textile Industry*, Textile Commissioner, Bombay.

Table 8.10 : Deliveries of mill cloth for civilian consumption and exports

(In million yards)

Year (Sept.-Aug.)	Coarse	Medium	Fine	Super- fine	Fent*	Total
° Civilian Consumption						
1955-56	404	3128	403	286	119	4340
1956-57	664	2618	346	246	161	4035
1957-58	731	2794	329	233	223	4310
1958-59	689	3027	240	221	251	4428
1959-60	470	2972	211	222	247	4122
1960-61	524	3240	208	217	250	4439
1961-62	586	3214	174	190	286	4450
Exports						
1955-56	193	553	19	18	—	783
1956-57	250	626	28	20	—	924
1957-58	226	447	8	19	—	700
1958-59	238	442	7	21	—	708
1959-60	262	606	7	35	—	910
1960-61	217	422	6	38	—	683
1961-62	174	330	4	42	—	550

\* Exports were of negligible quantity.

Source : Indian Textile Industry, Textile Commissioner, Bombay.

Table 8.11 : Area under short-staple, medium-staple, and long-staple cotton in India

(In '000 acres)

Year	Short staple	Medium staple	Long staple	Total
1951-52	4291	7071	4839	16201
1952-53	3633	7432	4648	15713
1953-54	3666	7782	5817	17265
1954-55	3920	8684	6080	18684
1955-56	3858	8794	7326	19978
1956-57	3358	8489	8064	19893
1957-58	3277	9901	6818	19996
1958-59	3158	9797	6971	19926
1959-60	2251	8946	7607	18804
1960-61	2287	8389	8195	18871
1961-62	2422	8542	7746	18710

Source : Directorate of Economics and Statistics, Ministry of Food and Agriculture.

no increase in export of textile products during the years since 1956-57, as will be clear from data presented in Table 8.9. One of the conditions of import of cotton under P. L. 480 was that it should not result in increased exports of cotton and cotton textiles from India, (unless there was a proportionate rise in commercial imports of cotton). In point of fact, there was no increase in exports of raw cotton or cotton textiles. The imports were used for increasing domestic consumption of fine and superfine varieties of cloth. Since per capita income had been rising, a growing demand for superior quality of textile products was to be expected.

During the years 1956-62 cotton imports under P. L. 480 helped to keep up the level of production and consumption of cotton textiles, particularly in years of domestic crop-failure, and in more recent years of raising the level of consumption and production. It also added to the diversification of textile products particularly in the fine and superfine varieties.

A question naturally arises : how far has import of cotton under P. L. 480 affected the price and production of raw cotton in India? The data presented earlier ( in Tables 8.3 and 8.4) show that cotton production in India more or less stagnated after 1956-57. The increase in cotton production during the first half of the fifties was mainly in medium- and long-staple cotton. During the later years medium- and long-staple cotton production did not show any increasing trend; production of short-staple cotton declined somewhat.

In the first three years of cotton imports under P. L. 480, the total cotton import of India was not increasing; indeed it was lower than in the earlier years. In 1959-60 the increased imports were mainly to meet shortages in domestic production. Till this time mill consumption of raw cotton in India also did not show significant rise. Only in the last two years 1960-61 and 1961-62, did the increased cotton imports under P. L. 480 add to increased use of raw cotton by the mills.

Data on acreages under short-staple, medium-staple, and long-staple cotton in India (Table 8.11) show that acreage under cotton reached a peak in 1957-58, nearly 2 million acres, after which it gradually declined till 1961-62 to 18.7 million acres, a decline of the order of 1.2 million acres. The large part of it was in short-staple cotton, but there was also a slight decline ( of about 4 lakh acres ) in the area under medium- and long-staple cotton, during the later two and three years.

It is difficult to say how far cotton prices have been responsible for the trend in acreages, and to what extent increased imports under P. L. 480 affected these prices. The government has been regulating the price of raw cotton in this country for quite some years now, by fixing a floor and a ceiling price for

Table 8.12 : *Index of wholesale price of cotton and other commodities in India*

( 1952-53 = 100 )

<i>Year ( Sept.- August )</i>	<i>Cotton</i>	<i>Wheat</i>	<i>All cereals</i>	<i>Ground- nut</i>	<i>All commo- dities</i>	<i>( Cotton ÷ Wheat ) × 100</i>	<i>( Cotton ÷ All cereals ) × 100</i>	<i>( Cotton ÷ Ground- nut ) × 100</i>	<i>( Cotton ÷ All commodities ) × 100</i>
1952-53	98	99	101	N. A.	103	99	97	N. A.	95
1953-54	105	85	90	107	102	123	116	98	103
1954-55	98	70	74	71	93	139	132	138	105
1955-56	104	72	84	96	97	145	124	108	107
1956-57	111	91	101	112	108	122	110	99	102
1957-58	101	89	102	108	109	114	100	94	93
1958-59	101	107	106	123	115	94	95	82	82
1959-60	110	94	106	136	120	117	104	80	91
1960-61	110	89	102	155	126	123	107	71	87
1961-62	111	92	104	147	125	120	107	75	88

N. A. : Not available.

*Source* : *Index number of wholesale prices in India*, Central Statistical Organisation, New Delhi.

different varieties grown in India. The prices are free to fluctuate within this range, but sometimes even a premium is paid on the ceiling price for varieties in high demand or short supply. Moreover, in view of the varying crop patterns in different cotton-growing regions of the country, any analysis of price and acreage response has to be carried separately for the regions. However, price quotations for different varieties of cotton were not available continuously from any market centres for the entire period under review. Data relating to the average, all-India wholesale price of cotton, groundnut and cereals as well as the wholesale-price index for all commodities are given in Table 8.12. These data show that the price of cotton was low relative to that of all commodities as well as important cash-crops like groundnut, but was high in relation to price of cereals, during the years 1957-62. Though these data cannot properly reflect the relative price-position of cotton in the different cotton-growing regions of the country, they suggest that cotton prices since 1957 have not been favourable compared to prices of alternate cash-crops. The price elasticity of acreage under cotton is likely to be higher than that of cereals,<sup>3</sup> particularly of irrigated cotton. The low relative price of cotton could have been a contributing factor to the stagnancy of area under cotton, particularly of the medium- and long-staple varieties, during the years since 1957. Cotton imported under P. L. 480 became significant only after 1959-60 and the area under medium- and long-staple cotton declined slightly during this period. If P. L. 480 cotton had any adverse effect on cotton production in India, it might have been felt only after 1960 to any extent.

<sup>3</sup> See Raj Krishna, *op. cit.*

## CHAPTER IX

### CONCLUDING REMARKS

A major objective of the special economic aid under P. L. 480 was to help newly developing nations meet the strains of the transitional period and enable them to stand on their own feet. India is one of the largest economically under-developed countries of the world, and has received a very large share in the total assistance under P. L. 480. During the last 13 years India launched on large plans of economic development that would give her citizens better conditions of living. The P. L. 480 aid was first made available to India at a time when she was beginning to feel the strains of this developmental effort, on her food front. The inflationary pressures generated in the economy during the subsequent years could not have been contained with the help of domestic production alone, which had not been increasing steadily and fast enough. The assistance under P. L. 480 played a significant role in this connection, particularly during some difficult years for the Indian economy.

Moreover, this aid provided substantial additional resources for investment in plans of economic development. In the absence of the funds obtained through the sale of P. L. 480 imports in the country, India would have possibly taken to either a smaller plan, or larger deficit financing, or more stringent measures for raising local resources, each one of which would have been an unpleasant alternative.

Apart from these, the imports under P. L. 480 helped raise the cereal consumption of the people in India, which would not have been possible with the help of internal production and commercial imports.

By themselves, these are solid achievements on the credit side of P. L. 480. However, it is necessary to assess the role of P. L. 480 in India from the point of view of long-term perspectives and policy. India is a poor country with more than her share of hungry mouths in the world. The nutritional gap is appalling. Appropriately priced, any quantum of extra food could be consumed by people in this country. It can simultaneously keep price of food low, and provide additional resources for development. Any large 'gift' of food could achieve all this at any time. If imports under P. L. 480 are not such occasional 'gifts' to be relished for a moment and cherished for ever, they have to be considered in the context of the country's abilities and requirements. It needs to be recognized that the P. L. 480 imports are meant to help tide over difficult periods. For India it was meant to provide the necessary ballast to her food-policy over the difficult years of development. It is not an inter-

minable flow, in the context of long, term policy. Therefore, any rise in consumption, aided by P. L. 480, which cannot in the long run be sustained by India's ability to produce at home and/or buy from abroad, would not be real and helpful. Nor can a price policy based on such a short-term approach be sustained in the long run, and be conducive to development and growth.

Judged from this point of view, India's food policy in the context of P. L. 480 imports would appear to have been far short of the desired. While the inflationary pressures have pushed the general price level steadily upwards, the Government with the help of P. L. 480 imports has tried to hold the price of wheat at an artificially low, unchanging level all through. It has meant steady lowering of the relative price of wheat. This has had two consequences: In the first place large additional supplies from P. L. 480 imports have become a normal feature of the Indian food economy. Even in a year of good harvest and increased production of cereals in general and wheat in particular, the sales from imports have been around 3 million tonnes. This has steadily exhausted all the imported foodgrain. There has been no significant effort at stock-piling; whatever stocks are there, they would not suffice even a year's requirement of imported grain on which the market has now become dependent for maintaining the related levels of price and consumption. Moreover, a year of shortfall in domestic production would see a rise in wheat price, unless much larger supplies than normal at present are made available. The level of imports and issues witnessed till 1962 will be inadequate to meet this task. This was demonstrated in 1958-59, when prices rose despite peak imports, as domestic production was short. The experience in recent months in India (beginning of 1964) is another indication of this state of affairs.

Secondly, the pricing and manner of distribution has resulted in a very much larger consumption of wheat and wheat products in urban areas. A large part of this has been by middle and high income groups, who are the larger consumers of flour mill products (and the flour mills have been taking increasing quantum of imported wheat in recent years). In an economy, where food supply is not plentiful, to put it mildly, the justice and propriety of subsidizing consumption of such classes is not at all clear.

Indeed, there appears to have been no effort made to price foodgrains appropriately at different levels. Even the Government's price policy has refused to take advantage of the differential preference of the consumers for red and white imported wheat. The large and assured supplies under P. L. 480 appear to have created almost complete dependence on these, as could be seen from the fact that some efforts in regard to internal procurement, price regulation, etc., were made in the case of rice, while none of these has been a serious feature of the wheat policy of Government.

It is also possible that there has been a lack of enthusiasm for building stocks and in any case, using P. L. 480 supplies judiciously, because sale of P. L. 480

imports makes real resources available for planned investment, while stock piling would not. The alternative methods of raising these resources would have been loans and taxes, which would either be difficult or painful.

The Government has apparently never seriously considered the fact that at least a part of the burden of its price policy and the resource for development, is being borne by the farmer, chiefly the wheat farmer, in India. The lowering of the price of wheat results in adverse terms of trade, which is like a tax on the farmer. The lesser the ability of the farmer to shift his resources out of such crops, the greater the burden on him.

The distorted price structure and the large resource commitment to maintain it, the subsidization of the consumption of higher income groups that scarcely need it, the taxing of the wheat cultivator, all these could at least be understood, if there was a fair possibility that India would be able to meet the additional requirements from her own resources, either through increased production or through diversion of resources to other lines which could help her buy her food-requirements from abroad, in not too distant a future. If there were signs of this possibility, then all these might appear as short-term costs, borne to tide over a temporary difficulty. Unfortunately, there are no signs of it yet.

In the first instance, the chances of India's being able to import additional food worth Rs. 80 to Rs. 100 crores every year, by paying for it through increased exports sometime in foreseeable future, appear quite remote. During the last 10 years her exports have not increased, while there is a continuing pressure for increased imports (other than food). Diversion of resources from wheat production is also not likely to create the necessary favourable conditions for such a development to any significant extent.

Production of foodgrains has not been showing uniformly encouraging trends. The performance in this field during the first six years of P. L. 480 imports was not disappointing. But the forces like the virgin land brought under plough which were mainly responsible for such development, will not continue for long. And then the economy will have to depend on other factors. The Government's policies in this regard have not been helpful either.

The Government has been more anxious to keep a lid on prices of foodgrains, but not to provide a reasonable bottom to them. The wheat prices declining at any time as a consequence of State policy, found Government very reluctant to support them. Besides, the result of the general price policy in regard to wheat has been a lowering of the relative price of wheat for the farmer. Possibly, the price elasticity of acreage under different cereals in most parts of India is low, and in any case these small effects have been drowned in the big increase in newly cropped land. But if this trend in relative price continues, it would not be improper to expect an adverse effect on wheat area, sooner than later. Inputs other than land, like irrigation, fertilizer, etc., will be devoted less

to wheat than to others. In any event, the low relative prices cannot be an incentive for greater production, when the rate of increase required is very sizeable.

In regard to measures other than prices also, there is evidence of a lack of sense of urgency. In general the needed structural and technological changes in agriculture, and the larger supply of new inputs have not been undertaken at an urgent pace. Specifically in foodgrains, the relatively greater attention to rice than to wheat is an indication that large P. L. 480 supplies have created a sense of relaxation. In all this, the sense of urgency, spurred by the realization that P. L. 480 is not an unending stream, is not evident.

The task of stepping up the pace of increase in food production in India is difficult. And the goals set by the level of consumption temporarily achieved and enabled by P. L. 480 imports are quite high. With the rate of growth of cereal production, as seen during the years of P. L. 480 imports, these goals cannot be sustained by internal supply in foreseeable future.

It suggests, therefore, that India cannot afford to be wasteful in the use of P. L. 480 resources, nor can it relax on its oars, thinking the P. L. 480 breeze will blow for ever. The imports under P. L. 480 can play their proper role, only in the context of a more realistic price policy and a more judicious use of these resources on the one hand, and a sincere and much greater effort at increased production on the other..

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## ERRATA

<i>Page</i>	<i>Line</i>	<i>In place of</i>	<i>Read</i>
19	10	with the Second Plan period	with those of the Second Plan period
25		( Footnote Contd. 14 )	( Footnote Contd. 15 )
39	12	remained	remainder
49	1	in opportune	inopportune
	11	years'	years
	19	becomes	become
52	Table		as continuation of foot-note on p. 51
59	23	they	it
	24	They	It
63	3	not be	not to be
	27	and procured	procured
66	11	taking place	was taking place
75	11	regulation	regulating
79	3	foodgrains	feedgrains
82	para 4 line 4	its	the
85	footnote 2	mill	hill
131	15	effect	effects
154	last line	period	periods
166	last para line 13	increasing	increasing
200	last line	long, term	long-term