



सत्यमेव जयते

GOVERNMENT OF INDIA

**REPORTS
OF THE
AGRICULTURAL PRICES COMMISSION
(REDESIGNATED AS COMMISSION FOR
AGRICULTURAL COSTS AND PRICES)
ON PRICE POLICY
FOR
CROPS SOWN IN 1983-84 SEASON**

COMMISSION FOR AGRICULTURAL COSTS AND PRICES
DEPARTMENT OF AGRICULTURE & COOPERATION
MINISTRY OF AGRICULTURE AND RURAL DEVELOPMENT
NEW DELHI



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March

1985

FOREWORD

Keeping in view the importance of informed decision on agricultural price policy, a combined volume containing reports of the Agricultural Prices Commission on price policy for crops sown in 1982-83 season was brought out in 1984. The present volume contains the various price policy reports of the Commission for crops sown in 1983-84. The arrangement of reports in this volume is slightly different from the one adopted in the earlier volume. This follows from the decision of the Commission in the beginning of 1983-84 to discontinue its earlier practice of submitting price policy reports on crop to crop basis. Instead the Commission has now started submitting its reports on price policy for different crops on integrated seasonal basis broadly divided into kharif and rabi. However, for jute and sugarcane the Commission continues to submit separate reports since they do not fall under the general seasonal pattern.

Consistent with the Government's policy of providing remunerative prices to the farmer, the support/procurement prices have been further raised for the 1983-84 crops as will be seen from the following table:—

Support/Procurement prices fixed by the Government

(Rs. per quintal)

Crop	Support/Procurement Prices	
	1982-83 Crop	1983-84 Crop
Paddy	122	132
Jowar, Bajra, Maize & Ragl	118	124
Wheat	151	152
Barley	122	124
Gram	235	240
Tur	215	245
Moong	240	250
Urad	230	245
Groundnut-in-Shell	295	315
Rapeseed/Mustard	355	360
Soyabean : Black variety	220	230
Yellow variety	245	255
Sunflowerseed	250	275
Jute (W5 Grade)	175	185
Cotton	380 (J34)E-414 varieties)	400 (F-414)H-777 varieties)
Sugarcane	13.00	13.50

(ii)

While recognising that the price instrument has a positive role to play, the non-pricing aspects namely technological and institutional improvements, which the Agricultural Prices Commission has emphasised in its reports, are equally important from the point of view of optimising the returns to the farmer and promoting integrated development of agricultural economy.

I have great pleasure in releasing this combined volume containing the reports of the Agricultural Prices Commission on price policy for the crops sown in 1983-84, for the benefit of the public.

Sd/-
(BUTA SINGH)

AGRICULTURAL PRICES COMMISSION

(Redesignated as Commission for Agricultural Costs and Prices)

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CONTENTS

S. No.	PAGE No.
1. Report on Price Policy for Kharif Crops of 1983-84 Season	
Preface	xi
Summary of Recommendations	1
<i>Section</i>	
I Kharif Crop Economy—An Overview	3
II Kharif Cereals	8
III Kharif Pulses	14
IV Kharif Oilseeds	18
V Raw Cotton	22
<i>Tables</i>	
Tables pertaining to Section I	29
Tables pertaining to Section II	31
Tables pertaining to Section III	56
Tables pertaining to Section IV	77
Tables pertaining to Section V	89
2. Report on Price Policy for Rabi Crops of 1983-84	
Preface	103
Summary of Recommendations	105
<i>Section</i>	
I Rabi Crop Economy—An Overview	107
II Rabi Cereals	110
III Rabi Pulses	114
IV Rabi Oilseeds	117
<i>Tables</i>	
Tables pertaining to Section I	121
Tables pertaining to Section II	123
Tables pertaining to Section III	138
Tables pertaining to Section IV	146
3. Report on Price Policy for Raw Jute for the 1983-84 Season	
Preface	157
Report	159
Tables	165
4. Report on Price Policy for Sugarcane for the 1983-84 Season	
Preface	179
Report	181
Tables	189

TABLES APPENDED IN EACH REPORT

Table No.	Title	Page No.
1. PRICE POLICY FOR KHARIF CROPS		
SECTION I—AN OVERVIEW		
1.1	Gross Cropped Area and Area under Forecast Crops	29
1.2	Cropped and Irrigated area during the triennia ending 1969-70 and 1978-79	29
1.3	Percentage share of Crop Groups in Area under Kharif Crops	30
1.4	Percentage Share in Area under Kharif Crops during the triennia ending 1969-70 and 1979-80	30
1.5	Changes in Gross Irrigated Area	30
1.6	Seasonwise Consumption of Fertilisers	30
1.7	Changes in Farm Harvest Prices during the triennia ending 1969-70 and 1979-80	31
1.8	Indices of Prices Received and Prices Paid by Agricultural Sector	31
SECTION II—KHARIF CEREALS		
2.1	Rice : Area, Production and Yield	31
2.2	Rice : Procurement	33
2.3	Public Distribution of Foodgrains	34
2.4	Month-end Stocks of Foodgrains	35
2.5	Rice : Index Numbers of Wholesale Prices	36
2.6	Paddy : Month-end Wholesale Prices	37
2.7	Paddy : Estimates of Cost of Cultivation/Production and related data	40
2.8	Paddy : Break-up of Cost of Cultivation per hectare	41
2.9	Jowar : Area, Production and Yield	42
2.10	Bajra : Area, Production and Yield	43
2.11	Maize : Area, Production and Yield	44
2.12	Ragi : Area, Production and Yield	45
2.13	Coarse Cereals : Index Numbers of Wholesale Prices	46
2.14	Jowar : Month-end Wholesale Prices	47
2.15	Bajra : Month-end Wholesale Prices	49
2.16	Maize : Month-end Wholesale Prices	51
2.17	Ragi : Month-end Wholesale Prices	53
2.18	Jowar : Estimates of Cost of Cultivation/Production and related data	54
2.19	Jowar : Break-up of Cost of Cultivation per hectare	54
APPENDIX-I		
SECTION III—KHARIF PULSES		
3.1	Pulses : Area, Production and Yield—All India	56
3.2	Tur (Arhar) : Area, Production and Yield	57
3.3	Moong : Season-wise Area, Production and Yield	59
3.4	Moong : Area, Production and Yield	62
3.5	Urad : Season-wise Area, Production and Yield	63
3.6	Urad : Area, Production and Yield	66
3.7	Index Numbers of Wholesale Prices	67
3.8	Tur (Whole) : Month-end Wholesale Prices	68
3.9	Moong (Whole) : Month-end Wholesale Prices	70
3.10	Urad (Whole) : Month-end Wholesale Prices	71
3.11	Tur : Range of Fluctuations in Wholesale Prices at Selected Centres	71
3.12	Moong : Range of Fluctuations in Wholesale prices at Selected Centres	74
3.13	Urad : Range of Fluctuations in Wholesale Prices at Selected Centres	76
SECTION IV—KHARIF OILSEEDS		
4.1	All India : Area, Production and Yield of Five Major Oilseeds	77
4.2	Groundnut : Area, Production and Yield	78
4.3	Groundnut : Area, Production and Yield (Season-wise)	80
4.4	Oilseeds and Edible Oils : Index Numbers of Wholesale Prices	82

<i>Table No.</i>	<i>Title</i>	<i>Page No.</i>
4.5	Groundnut and Groundnut Oil : Index Numbers of Wholesale Prices	82
4.6	Groundnut : Month-end Wholesale Prices	83
4.7	Groundnut Oil : Month-end Wholesale Prices	85
4.8	Soyabean : Month-end Wholesale Prices	86
4.9	Sunflowerseed : Month-end Wholesale Prices	87
4.10	Groundnut : Estimates of Cost of Cultivation/Production and related data	88
4.11	Groundnut : Break-up of Cost of Cultivation per hectare	88
SECTION V—RAW COTTON		
5.1	Area, Production and Yield of Cotton	89
5.2	Irrigated Area under Cotton	90
5.3	Compound Rates of Growth in Area, Production and Yield of Cotton	91
5.4	Balance Sheet of Cotton	91
5.5	Index Numbers of Wholesale Prices of Raw Cotton	92
5.6	Month-end Wholesale Prices of Kapas	93
5.7	Month-end Spot Rates of Important Varieties of Cotton Lint at Bombay Market	95
5.8	Purchase of Cotton by the Cotton Corporation of India and Maharashtra State Cooperative Marketing Federation Ltd.	96
5.9	Minimum Support Prices for Different Varieties of Kapas	96
5.10	Minimum Support Prices for Cotton Lint and Kapas	98
5.11	Cotton : Estimates of Cost of Cultivation/Production and related data	99
5.12	Cotton : Break-up of Cost of Cultivation per hectare	99
2. PRICE POLICY FOR RABI CROPS		
SECTION I—AN OVERVIEW		
1.1	Percentage share of Rabi Foodgrains in Area under and Production of Foodgrains	121
1.2	Irrigated Area under important Rabi Crops	121
1.3	State-wise Consumption of Fertilizers during Rabi	121
1.4	Changes in Prices (Percentage Change over the Preceding year)	122
1.5	Wheat : Procurement and Distribution Charges	122
1.6	Changes in farm harvest Prices	123
SECTION II—RABI CEREALS		
2.1	Wheat : Area, Production and Yield	123
2.2	Wheat : Procurement	125
2.3	Month-end Stocks of Foodgrains	126
2.4	Public Distribution of Foodgrains	127
2.5	Wheat : Index Numbers of Wholesale Prices	128
2.6	Wheat : Month-end Wholesale Prices	129
2.7	Wheat : Cost of Production at Constant Prices in Punjab	133
2.8A	Wheat : Estimates of Cost of Cultivation/Production and related data for 1981-82	133
2.8B	Wheat : Break-up of Cost of Cultivation per hectare for 1981-82	133
2.9	Barley : Area, Production and Yield	134
2.10	Barley : Index Numbers of Wholesale Prices	135
2.11	Barley : Month-end Wholesale Prices	136
SECTION III—RABI PULSES (GRAM)		
3.1	Pulses : Area, Production and Yield—All India	138
3.2	Gram : Area, Production and Yield	139
3.3	Gram : Index Numbers of Wholesale Prices	141
3.4	Gram (Whole) : Month-end Wholesale Prices	141
3.5	Gram : Estimates of Cost of Cultivation/Production and related Data for 1981-82	145
3.6	Gram : Break-up of Cost of Cultivation per hectare for 1981-82	145
SECTION IV—RABI OILSEEDS (RAPESEED/MUSTARD)		
4.1	Oilseeds : Area, Production and Yield—All India	146
4.2	Rapeseed and Mustard : Area, Production and Yield	147
4.3	Rapeseed and Mustard : Index Numbers of Wholesale Prices	149
4.4	Mustard Oil : Index Numbers of Wholesale Prices	149

<i>Table No.</i>	<i>Title</i>	<i>Page No.</i>
4.5	Rapeseed and Mustard : Month-end Wholesale Prices	150
4.6	Mustard Oil : Month-end Wholesale Prices	152
4.7	Rapeseed and Mustard : Estimates of Cost of Cultivation/Production and related Data for 1981-82	154
4.8	Rapeseed and Mustard : Break-up of Cost of Cultivation per hectare for 1981-82.	154
3. PRICE POLICY FOR RAW JUTE		
1.	Internal Consumption and Export of Jute Goods	165
2.	Exports of Jute Manufactures from India	165
3.	Exports of Carpet Backing to U.S.A.	165
4.	Production of Jute Manufactures	166
5.	Consumption of Jute and Mesta by mills	166
6.	Area under Jute and Mesta	167
7.	Production of Jute and Mesta	167
8.	Yield per hectare of Jute and Mesta	169
9.	Compound Rates of Growth of Raw Jute Area, Production and Yield	179
10.	Month-end stocks of jute goods, with mills	169
11.	Balance sheet for Jute and Mesta	170
12.	Month-end wholesale prices of Raw Jute	171
13.	Monthly index numbers of wholesale prices of Raw Jute	172
14.	Purchase of jute by Jute Corporation of India	172
15.	Estimates of cost of Cultivation/Production and related data for Jute in West Bengal	174
16.	Minimum Support Prices for Jute (Assam Bottom)	176
4. PRICE POLICY FOR SUGARCANE		
1.	Area and Production of Sugarcane	189
2.	Area, Production and Yield of Sugarcane	190
3.	Sugarcane Area relative to Gross Cropped Area and Wheat-cum-Sugarcane Area	192
4.	Sugarcane Area relative to Gross Cropped Area and Paddy-cum-Sugarcane Area	192
5.	Utilisation of sugarcane for Manufacturing Sugar	193
6.	Index Numbers of Wholesale Prices	193
7.	Sugar : Month-end Wholesale Prices	195
8.	Gur : Month-end Wholesale Prices	197
9.	Average Prices Paid by Sugar Factories for Sugarcane	199
10.	Balance Sheet of Sugar	199
11.	State-wise Production of Sugar	200
12.	Installed Capacity of Sugar Industry	200
13.	Variations in Sugar Production	200
14.	Statutory Minimum Prices of Sugarcane	201
15A.	Estimates of Cost of Cultivation/Production and related Data for Sugarcane in Andhra Pradesh	202
B.	Break-up of Cost of Cultivation per hectare of Sugarcane in Andhra Pradesh	202
16A.	Estimates of Cost of Cultivation/Production and related Data for Sugarcane in Uttar Pradesh	203
B.	Break-up of Cost of Cultivation per hectare of Sugarcane in Uttar Pradesh	204
17A.	Estimates of Cost of Cultivation/Production and related Data for Sugarcane in Maharashtra	205
B.	Break-up of Cost of Cultivation per hectare of Sugarcane in Maharashtra	206

**I. REPORT
ON
PRICE POLICY FOR KHARIF CROPS
OF
1983-84 SEASON**

PREFACE

The Agricultural Prices Commission submitted its Report on Price Policy for Kharif Crops for 1983-84 on 16th May, 1983. In this Report, the Commission had made recommendations on Kharif cereals (paddy, jowar, bajra, maize and ragi), Kharif pulses (arhar, moong and urad), Kharif oilseeds (groundnut-in-shell, soyabean and sunflowerseed) and raw cotton. The Commission had recommended that the prices of common varieties of paddy be fixed at Rs. 132 per quintal. The procurement price of Kharif coarse cereals was suggested at Rs. 124 per quintal. The minimum support prices of arhar, moong and urad were recommended at Rs. 245, Rs. 250 and Rs. 245 per quintal respectively.

As regards groundnut-in-shell, the minimum support price was recommended at Rs. 315 per quintal, for soyabean (black variety) at Rs. 230 per quintal, soyabean (yellow variety) at Rs. 255 per quintal and that of sunflowerseed at Rs. 275 per quintal. In the case of cotton, the Commission, for the first time, recommended minimum support prices for two basic varieties, viz., Rs. 400 for F-414/H-777 in the medium and short staple group and Rs. 527 in long and superior long staple group.

After taking into consideration the recommendations of the Agricultural Prices Commission, and in consultation with the State Governments as also the concerned economic Ministries and the Planning Commission, the Government fixed the procurement/minimum support prices for Kharif crops at the levels suggested by the Agricultural Prices Commission for the 1983-84 season.

S. P. MUKERJI

*Secretary to the Govt. of India
Department of Agriculture & Cooperation
Ministry of Agriculture*

*Dated the
30th April, 1984*

REPORT ON PRICE POLICY FOR KHARIF CROPS OF 1983-84 SEASON

SUMMARY OF RECOMMENDATIONS

In this Report, the Agricultural Prices Commission, presents its views on the price policy for the Kharif Season of 1983-84. The Commission recommends that :

General Recommendations

- (i) the severity of the land constraint on the country's agricultural economy obtaining in the seventies be fully reflected in the short run and medium term plans in terms of emphasis on yield raising purchased inputs required to achieve the desired growth targets; (Para 1.1)
 - (ii) the impact of additional irrigation facilities on the intensity of cropping be examined for each State to identify the causes for the slower than expected growth of the area under crops and remedial policies be implemented; (Para 1.3)
 - (iii) the observed trend of increasing area being allocated to pulses and oilseeds in recent years be sustained; (Para 1.7).
 - (iv) in view of the measured adverse impact of the fertilizer price hike on fertilizer consumption by small and marginal farmers, a scheme of subsidizing fertilizer to the extent of 25 percent of the purchases of such farmers be implemented in the remaining period of the Sixth Plan, starting from the 1983/84 Kharif season; (Para 1.14).
 - (v) Sales Taxes on fertilizers imposed by State Governments, be abolished; (Para 1.15);
 - (vi) the special programme for small and marginal farmers, which meets to a large extent, the objectives of the Commission's earlier recommendation of a Wheat Development Fund, be vigorously implemented together with the fertilizer subsidy suggested in this report, to achieve the desired growth targets of the Kharif economy; (Para 1.18)
- (viii) in order to give appropriate signals for quality improvement, the price differential between common, fine and superfine varieties of paddy be raised to Rs. 7 per quintal each; (Para 2.13)
 - (ix) the procurement prices for the different varietal groups of rice be derived from the procurement prices of the respective varieties of paddy on the basis of hulling/milling ratios and the processing and incidental charges obtaining in the different States; (Para 2.18)
 - (x) the procurement price for the fair average quality of jowar, bajra, maize and ragi be fixed at Rs. 124† per quintal for the 1983-84 season; (Para 2.29)
 - (xi) State Governments placed in a somewhat similar situation be advised to follow similar patterns of procurement, and also ensure their implementation and the deficit States must also contribute to the procurement efforts by imposing and implementing a levy, though of a lower order; (Para 2.11)
 - (xii) with the adoption of the rainfed technology and subsequent increase in production, the storage and distribution problems relating to coarse grains be examined in detail and solutions for effective price support programmes be planned for; (Para 2.30)

Kharif Pulses

- (xiii) in view of the impressive output performance of Kharif pulses in the last four years, policies for extending market and price support to these crops be given priority; (Paras 3.1 and 3.18)
- (xiv) the minimum support price for the fair average quality of the produce be fixed at Rs. 245 per quintal each for tur (or arhar) and urad and at Rs. 250 per quintal for moong for the 1983-84 season; (Para 3.21)
- (xv) the Food Corporation of India be entrusted by the Government with the responsibility of making adequate arrangements for undertaking timely purchase operations in kharif pulses (tur, moong and urad) as well as gram; (Para 3.19).

Kharif Cereals

- (vii) the procurement price for the varieties of paddy in the "Common" group be fixed at Rs. 132* per quintal for the 1983-84 marketing season; (Para 2.18)

*Chaudhari Randhir Singh, Member recommends that the procurement price for the varieties of paddy in the "Common" group be fixed at Rs. 152 per quintal for 1983/84 marketing season. Further, as special weightage, price of this "Common" group of paddy be fixed at Rs. 157 per quintal for Southern, Western and North Eastern States where farmers are handicapped by comparatively higher production costs and risk element.

†Chaudhari Randhir Singh, Member recommends that the procurement price for the fair average quality of jowar bajra, maize and ragi be fixed at Rs. 144 per quintal for the 1983-84 season.

Kharif Oilseeds

- (xvi) the support price for the fair average quality of the produce be fixed at Rs. 315 per quintal for groundnut-in-shell, Rs. 230 per quintal for soyabean (black variety), Rs. 255 per quintal for soyabean (yellow variety) and at Rs. 275 per quintal for sunflowerseed for the 1983-84 season; (Para 4.23)
- (xvii) the financial institutions support economically viable commercial operations by cooperative agencies in oilseed markets; (Para 4.20)
- (xviii) a public sector agency with adequate processing, storage and other infrastructural facilities be established for undertaking on a continuing basis price support operations as well as commercial purchases and sales of oilseeds and edible oils; (Para 4.20)

Raw Cotton

- (xix) (a) the minimum support price for kapas of fair average quality of F-414/H-777 be fixed at Rs. 400 per quintal for the 1983-84 season and prices of varieties other than those in the group of long and superior long be fixed keeping in view the normal market price differentials between this and other varieties;

(b) the minimum support price for kapas of fair average quality of H-4 cotton be fixed at Rs. 527* per quintal for the 1983-84 season and the prices of other varieties in the group of long and superior long be fixed keeping in view the normal market price differentials between this and the other varieties; (Para 5.22)

- (xx) the information base be strengthened to provide timely and reliable estimates of the size of the crop. Also, the existing provisions regarding the submission of periodical returns by the ginning and pressing factories and the textile mills be strictly enforced; (Para 5.9)
- (xxi) a scheme of regulated futures trading be introduced in raw cotton; (Para 5.15)
- (xxii) high priority be accorded to the development of effective regulated markets in the cotton growing tracts of Gujarat, Andhra Pradesh and Tamil Nadu, as well as rationalisation of ginning and pressing charges at the State level; (Para 5.17)
- (xxiii) the State Governments may initiate action for denotification of varieties which are redundant and the office of the Textile Commissioner may discontinue announcing the support price of these varieties. (Para 5.19).

*Chaudhary Randhir Singh, Member recommends that (a) the minimum support price for kapas of fair average quality of F-414/H-777 be fixed at Rs. 450.00 per quintal for the 1983-84 season, and (b) the minimum support price for kapas of fair average quality of H-4 cotton be fixed at Rs. 577.00 per quintal for 1983-84 season.

1. KHARIF CROP ECONOMY-- AN OVERVIEW

Land & Irrigation Base

1.1 The area under crops in the country which during the period 1952-53 to 1964-65 had grown at the rate of 1.28 per cent per annum and at the rate of 0.31 per cent per annum during the period 1967-68 to 1979-80, failed to hit the record level of 175.2 million hectares reached in 1978-79 in the last three years. The gross cropped area for 1979-80 is estimated at 167.2 million hectares. Gross cropped area estimates are not available for the subsequent years but for 1980-81 and 1981-82 the estimates of area under forecast crops are placed at 162.2 and 166.0 million hectares as against 166.5 million hectares for 1978-79. Preliminary estimates made available by State Governments indicate that the gross cropped area for 1982-83 may turn out to be lower than that for 1981-82. Adverse weather conditions in some States during 1980-81 and 1982-83, of course, would have affected the area sown and, as had happened in the past, the area under crops may witness a quantum jump of 3 to 4 million hectares in a year of favourable weather conditions. Still the chances of the Sixth Plan target of area under crops of 181 million hectares for 1984-85, being achieved would remain bleak unless the intensity of cropping increases at a faster rate. A tighter land constraint than that visualised earlier would require a greater emphasis on yield raising purchased inputs to achieve the desired growth targets. The land constraint on the country's agricultural economy has become more severe in recent years. The Commission recommends that this experience should be fully reflected in the short run and medium term plans. (Table 1.1)

1.2 In this context, it needs to be recalled that the principal factor envisaged for growth of area during the Sixth Plan is the rise in the intensity of cropping as a consequence of irrigated area increasing by about 14 million hectares. The results of analysis of the trends in net and gross irrigated area between 1969-70 and 1978-79, however are not very encouraging. Between the triennia ending 1969-70 and 1978-79, the net irrigated area in the country increased by 7.75 million hectares but the gross irrigated area increased by only 10.66 million hectares whereas between the triennia ending 1959-60 and 1969-70, the gross irrigated area had increased by 7.76 million hectares with an increase of only 4.77 million hectares in net irrigated area. Further, in certain States despite significant increases in gross irrigated area, the gross cropped area has failed to increase. For example, in Bihar during the triennia ending 1969-70 and 1978-79, the gross irrigated area increased by 1.1 million hectares but the expansion in area under crops due to increase in

intensity of cropping was only 0.32 million hectares. This could have happened, apart from other reasons, due to additional irrigation being utilised for long duration crops or due to the failure of the irrigation system to provide enough water for raising the crops in the second season. (Table 1.2)

1.3 In this connection, the Commission would also like to emphasise its earlier observation that in some States, over-use of surface irrigation in case of crops like sugarcane and paddy has not only resulted in sub-optimal use of available water resources but has also led to serious problems of soil salinity and alkalinity in certain irrigation commands. Lags in the development of appropriate water delivery and control systems can lead to excessive water losses in water courses, inability of the system to meet crop stress requirements in certain critical periods, excess water in upper reaches co-existing with water scarcity in tail ends of irrigation commands and sub-optimal allocation of water between seasons within an agricultural year. These developments call for planning for controlled surface water application, conjunctive use of ground water resources and intensification of the Command Area Development Programme. The need for raising intensity of cropping requires a careful examination of the impact of additional irrigation facilities on the intensity of cropping in respect of each State and identification of the causes for slower than expected growth in the area under crops.

1.4 Additional irrigation potential of 2.3 and 2.5 million hectares is reported to have been created in 1980-81 and 1981-82 respectively and for 1982-83 the estimate is placed at 2.4 million hectares. Further, the utilisation is reported to have increased from 52.6 million hectares in 1979-80 to 57.5 million hectares in 1981-82. Although estimates of gross irrigated area after 1979-80, based on the concept of land utilisation, have not yet become available, the estimates made available to the Commission by the State Governments for important kharif crops are not very encouraging. To begin with, it needs to be noted that since 1978-79, while in nominal terms public expenditure on irrigation has increased, in real terms this expenditure has probably remained constant. The irrigated area under rice has not shown any increase in 1980-81 and 1981-82 in the States of Andhra Pradesh, Karnataka, Tamil Nadu, Maharashtra and Gujarat. Irrigated area under important kharif crops in 1980-81 and 1981-82 is estimated to be lower than that in 1978-79 in the States of Andhra Pradesh, Karnataka, Tamil Nadu and Gujarat. In Bihar also, the gross irrigated area has not increased. It is true that no firm conclusions can

be drawn from such partial data but these at least highlight the need for monitoring the actual utilisation, crop by crop, of irrigated potential created in different regions.

Allocation of land & Irrigated Area

1.5 Between the two main crop seasons, the area under rabi has increased at a rate much faster than that under kharif crops during the triennia ending 1969-70 and 1979-80. During this period, area under kharif crops recorded significant increases in Punjab, Orissa and Tamil Nadu, but declined in Andhra Pradesh, Bihar and Gujarat. Among the kharif crops, the area under kharif cereals remained almost at the same level during 1967-68 to 1979-80. However, during this period the area under pulses increased by 1.21 per cent per annum but the area under groundnut recorded a lower growth than that achieved in the total area. As a result of these developments, the share of kharif cereals to the total area under kharif foodgrains, fibres, groundnut, sesamum and castorseed declined from 71.9 per cent in the triennium ending 1969-70 to 70.9 per cent in triennium ending 1979-80. During this period, the share of kharif pulses improved from 9.1 to 10.0 per cent and that of fibres from 8.9 to 9.2 per cent. The share of area under oilseeds, however, showed a decline from 10.1 to 9.9 per cent. (Table 1.3)

1.6 The decline in the share of area under kharif cereals to total kharif area between the triennia ending 1969-70 and 1979-80 took place in almost all the States, the significant exceptions being Punjab and Assam. In Punjab, the share of area under kharif cereals showed a perceptible increase from 62.4 per cent to 65.2 per cent. Maharashtra, Gujarat, Rajasthan and Karnataka witnessed the sharpest decline in the share of area under cereals. In the case of oilseeds, the share declined sharply in Punjab, Tamil Nadu and Andhra Pradesh but improved in Orissa and Gujarat. The share of area under fibres showed significant improvements in the States of Gujarat, Andhra Pradesh, Tamil Nadu, Rajasthan, Punjab and Haryana. The only major State showing a decline was Maharashtra. (Table 1.4)

1.7 The Sixth Plan envisages an increase in the shares of pulses and oilseeds in the total area. The available information indicates that there has been some shift of area towards pulses and oilseeds. For 1981-82, the share of kharif oilseeds works out at 10.2 per cent and that of kharif pulses at 10.1 per cent. This trend needs to be sustained.

1.8 74 per cent of the additional irrigated area of 10.66 million hectares between the triennia ending 1969-70 and 1978-79 went to cereals and millets and about 12 per cent to sugarcane, condiments and spices and fruits and vegetables. There was a diversion of 3 lakh hectares away from pulses which reduced the share of food crops in the gross irrigated area by 3 per cent.

The oilseeds' share in additional irrigation was hardly 7 per cent and that of other non-food crops including fibres and plantation was about 8 per cent. In the period subsequent to 1979-80, the irrigated area under kharif cereals has not shown any significant upward movement but the irrigated area under fibres appears to have improved in many States. (Table 1.5)

1.9 Area expansion under kharif cereals will need to be derived through increases in cropping intensity led by a judicious strategy of water management. Recent trends in expansion of area under kharif pulses and oilseeds need to be sustained. As regards fibre crops, while the emphasis on productivity and quality improvements has to continue, an element of caution may be necessary as regards further area expansion.

Consumption of Fertiliser

1.10 After 1978-79, there has been a deceleration in the rate of growth of the third crucial input after land and irrigation, viz., fertiliser. In the three-year period ending 1978-79, fertiliser consumption showed an annual growth of 18 to 24 per cent but in 1980-81, 1981-82 and 1982-83 it has been only of the order of 5.9, 10.0 and 5.8 per cent, respectively. During the kharif season, the consumption of fertilizers increased by 3.8 per cent in the 1980-81 season and by 8.1 per cent in the 1981-82 season. In the adverse weather season of 1982-83, the off-take of fertiliser was lower by about 2 per cent. Apart from the adverse weather conditions during 1982-83 and partly in 1980-81, the jacking up of fertiliser prices by over 62 per cent during the course of two years also seems to have contributed to the deceleration of fertiliser consumption growth. (Table 1.6)

1.11 In this context, the Commission would like to emphasise that the policy of effecting substantial increases in the prices of fertiliser and that of adjusting administered prices of agricultural commodities for these changes cannot fully compensate the small and marginal farmers for the rise in their cost of production. In the case of foodgrains, it is well known that a large proportion of marketable surplus originates on large farms. The increase in the fertiliser price affects the cost of the total production whether it is marketed or not. In such a situation, the fertiliser price increase affects small farmers adversely as the benefit of higher output price is reaped only by those who have substantial marketable surplus.

1.12 Further, on crops like rice and wheat using high yielding varieties and fertiliser, quantity of fertiliser applied per hectare was observed to be higher among small farms than large farms. Recent studies on the subject, however, indicate that area fertilised by the small and marginal farmers is low and therefore the fertiliser application per hectare of cropped area is low among small and marginal farmers as compared to large farms. While complete data sets are not available,

for one major paddy growing State, it has been estimated that between 1980-81 and 1979-80 when fertiliser prices went up by about 38 per cent, consumption of plant nutrients went up by 6.7 per cent in large farms but declined by 8.3 per cent in small farms.

1.13 The desirability of augmenting fertiliser application on small and marginal farms needs to be seen in the light of the fact that Plan targets of production cannot be achieved unless the production increases on small and marginal farms also, as these account for a substantial share of the total agricultural output. In this context, the Commission would like to emphasise that despite adverse weather conditions, fertiliser consumption in 1982-83 in Orissa showed some increase and the two factors responsible for it were (a) distribution of fertiliser in packings of 5, 10 kgs. etc. and (b) the subsidy given on fertilisers purchased by small and marginal farmers. Similar impacts are observed in Kerala and Haryana.

1.14 The long-term solution would seem to lie in lowering fertiliser prices through reducing cost of production of fertiliser in the country by bringing in improvements in technology and better capacity utilisation as also through examination of the question of the pricing of basic feed stock for the fertiliser industry. In the immediate context, however, increase in fertiliser consumption can be achieved through subsidising the purchase of fertilisers by small and marginal farms. It is true that such a scheme is beset with administrative problems. These however, are not insurmountable. The Commission accordingly recommends that a scheme of subsidising fertiliser to the extent of 25 per cent of the cost of purchases, subject to the ceiling of requirements of the small and marginal farmers be immediately drawn up and implemented in the remaining period of Sixth Plan starting from the 1983-84 kharif season.

1.15 It may be noted that a number of State Governments impose sales taxes on fertilisers. These range from 2 to 5 per cent of the sale price. At the present phase of agricultural development, the Commission considers this tax as particularly inappropriate and recommends that sales taxes on fertilisers be abolished.

High Yielding Varieties

1.16 Among the kharif crops, high yielding varieties are available only in the case of cereals and cotton. The area under high yielding varieties as a proportion to total area under kharif cereals increased from 8.9 per cent in triennium ending 1969-70 to 36.9 per cent in the triennium ending 1979-80. It further increased to 38.5 and 40.3 per cent in 1980-81 and 1981-82 respectively. In the case of cotton, high yielding varieties accounted only for 2 per cent of area in the early Seventies but by 1979-80, this share increased to over 10 per cent. The share of area under high yielding varieties of cotton has also maintained its progress in 1980-81 and 1981-82.

1.17 In its report on price policy for the wheat crop of 1982-83 season, the Commission, considering the deceleration in the expansion of inputs basic to the growth of wheat output, had recommended a Wheat Development Fund. This fund was expected to be utilised in the wheat producing States for:

- (i) extension of budgetary support for subsidies to small and marginal farmers for purchase of fertilisers and seeds;
- (ii) extension of support for loans for tubewells installations and modernisation of existing groundwater schemes;
- (iii) subsidising installation of tubewells for small and marginal farmers; and
- (iv) better maintenance of rural electrification, transmission and distribution systems.

1.18 The Government did not accept the recommendation of the Commission for creation of the Wheat Development Fund, but it has announced a special programme for assisting the small and marginal farmers. During the current year, a sum of Rs. 250 crores for all the 5000 blocks of the country has been approved. The outlay will be shared equally by the Central and the State Governments for the following schemes.

- (i) Subsidy on wells and pumps to small and marginal farmers;
- (ii) subsidy for plantation of fuel and fruit trees; and
- (iii) free distribution of mini-kits of seeds and fertilisers and assistance for land development.

The Commission commends this programme and urges its effective implementation also in the areas having high potential for kharif crops particularly paddy. This programme together with on-going schemes and the fertiliser subsidy for small and marginal farmers recommended in this report will go a long way in promoting a more vigorous development of the kharif economy.

Production Performance

1.19 Production of kharif cereals during the period 1967-68 to 1979-80 showed an increase of 1.51 per cent per annum. Production of total cereals recorded a growth of 2.48 per cent per annum. The production of kharif pulses during this period increased at the rate of 1.21 per cent per annum and that of groundnut increased at the rate of 1.19 per cent per annum whereas the production of fibres showed an increase of 2.61 per cent per annum. Apart from allocation of area, these trends in production were sustained by productivity of some commodities rising at faster rate than that of others. While the productivity of cereals witnessed a growth of 2.0 per cent per annum, the productivity of total pulses declined by 1.08 per cent per annum and of oil-seeds improved only by 0.94 per cent per annum. The productivity of fibres during this period increased by 2.35 per cent per annum.

1.20 During the last three years, the production of kharif cereals is estimated to have fluctuated between 59.9 to 74.8 million tonnes. The index of production for cereals is estimated at 143.1 for 1980-81 and 145.8 for 1981-82 as against 143.6 for 1978-79 and 119.9 for 1979-80. The production of kharif pulses is placed at 3.9 and 4.4 million tonnes for 1980-81 and 1981-82 respectively. The earlier peak for production levels of kharif pulses was 3.7 million tonnes in 1975-76. This dropped to 3.2 million tonnes in 1979-80 and therefore the production performance since then has been impressive. The production of groundnut increased to 5.0 million tonnes in 1980-81 and further to a record of 7.2 million tonnes in 1981-82. During 1982-83 due to severe drought, not only the production of kharif cereals would show a substantial decline but that of groundnut also may show a perceptible fall. The index of production in the case of fibres is estimated at 133.0 for 1980-81 and 138.4 for 1981-82 against the earlier peak level of 139.5 in 1978-79.

Behaviour of Prices

1.21 As a consequence of differential rate of growth in the production of different commodities, relative prices did not increase at the same pace. Between the triennia ending 1969-70 and 1979-80, whereas the price index of cereals increased only by 62.6 per cent, the index number of wholesale prices of oilseeds increased by 117 per cent. In the case of pulses, the index rose by 114.9 per cent and that of fibres by 115.9 per cent. A somewhat similar trend was observed in the case of farm harvest price also. For example, while the farm harvest price of rice increased by 64.7 per cent during the triennia ending 1969-70 to 1979-80, the farm harvest price of tur increased by 212 per cent and that of cotton rose by about 130 per cent. The relative price structure underwent a sea change during this period. Treating the farm harvest prices of paddy as 100, it is observed that whereas in the triennium ending 1969-70, the prices of groundnut were 116 and of cotton and tur were 157 and 100 only, in the triennium ending 1979-80 the groundnut prices became 155 whereas the cotton prices became 220 and the price of tur became 190. (Table 1.7)

1.22 The wholesale price index for all commodities after remaining stable during 1978-79, started increasing at a fast rate. In 1979-80, the wholesale price index showed an increase of 17.1 per cent and in 1980-81 it increased by 18.2 per cent. In 1981-82, the rate of increase in prices declined to 9.3 per cent and would work out to no more than 2.5 per cent in 1982-83. The order of increase in the wholesale price index for food articles in the years 1979-80, 1980-81 and 1981-82 over the preceding year was 8.2, 11.4 and 13.1 per cent respectively. The rise in the prices for the group "fuel, power, light and lubricants" was 15.7, 25.2 and 20.7 per cent respectively. (1979-80, 1980-81, 1981-82)

1981-82 over the preceding years. In the case of manufactured products, the wholesale price index showed an increase of 20.2 per cent in 1979-80 and of 19.2 per cent in 1980-81 but during 1981-82 it increased only by 5.2 per cent. In 1982-83, the rise in the prices of manufactured products works out to 0.4 per cent.

Terms of Trade between agricultural and non-agricultural sectors

1.23 The terms of reference of the Commission were amended in March 1980 and the Commission was required, *inter-alia*, to take into account the changes in the terms of trade between agricultural and non-agricultural sectors of the economy. However, an examination of the problem showed that the available estimates were beset with methodological and conceptual limitations. Not much thought had also been given to the relationship between trends in terms of trade and inter-sectoral resource flows. The Commission evolved a detailed methodology centered around finding the changes in the prices paid by the agricultural sector for various commodities and services purchased and prices received by it. The results of this study have been made available widely in the hope of eliciting reactions, given the complexity of the problem. The results of this study are tentative, since the Commission is working on methodological and data improvements, which may affect the estimates.

1.24 Analysis of the available data shows that since 1978-79, the increase in prices paid by the agricultural sector for inputs and items of capital formation has been higher than that of commodities and services purchased for private consumption. Prices for commodities which account for around 15 per cent of the weight in the purchases by the agricultural sector are influenced by the international energy crisis, e.g. fertilizer, diesel oil and kerosene and these have shown an abnormal increase in the period. In addition, there has been the impact of changes in administered prices of items like coal, cement, metals and electricity. The index of prices paid by the agricultural sector (triennium ending 1971-72 = 100) increased by 13.8, 17.0, 10.5 and 3.1 per cent in 1979-80, 1980-81, 1981-82 and 1982-83, respectively. These were counterbalanced to an extent by the increase in prices received by the farmer which went up by 9.7, 21.3, 9.7 and 2.8 per cent in 1979-80, 1980-81, 1981-82 and 1982-83, respectively. As a result, the terms of trade for agricultural sector which went down to 85.5 in 1979-80, improved to 88.7 in 1980-81 and has remained at around 88 in 1981-82 and 1982-83. (Table 1.8)

1.25 In this context, however, the Commission would like to emphasize that analysis of terms of trade as one of the criteria for price policy decisions, needs to be considered with an element of caution. The terms of trade analysis is for the sector as a whole while the price policy decisions are at the level of individual commo-

dities and support prices only set a floor for agricultural commodity prices. Depending on the vagaries of nature, prices can display large inter-year differences and since the price policy recommendations have to be made ex-ante (or in advance) a judgement on these differences will also be necessary. Further, the change in the pattern and amount of subsidy given to specific crops/area under special programmes do not fully get reflected in the terms of trade analysis and in any case the effect of such schemes would depend upon the efficiency of the delivery systems at the field level. This apart, improvements in marketing systems and infrastructure would have an impact to the extent that they would

reduce the spread between retail and harvest prices. Though the Commission recognises that agricultural commodity prices cannot be over a long period kept out of alignment with the prices of other commodities, the related factors have to be taken into account.

1.26 On the assumption of a well modulated and effectively implemented scheme of subsidies recommended in this report, as also of the effective implementation in the peak harvesting seasons of the support prices recommended in this report, it is the Commission's belief that a measurable favourable impact will be achieved on the terms of trade for the agricultural sector.

II. KHARIF CEREALS

A—PADDY/RICE

Growth Performance

2.1. In the seventies, the production of rice in the country recorded a moderate rate of expansion. The Sixth Plan envisaged a substantial acceleration of this momentum. There is, however, little evidence of this acceleration taking place in the first three years of the Sixth Plan.

2.2. Area under paddy went up from an average of 36.22 million hectares in the triennium ending 1968/69 to 40.28 million hectares by 1977/78 showing an average annual growth of 4.06 lakh hectares. The rate of expansion slowed down subsequently. Area under the crop was 40.48 million hectares in 1978/79 and 40.09 million hectares in the triennium ending 1981/82. At 40.71 million hectares in 1981/82, it was higher than the earlier peak in 1978/79 by 2.3 lakh hectares. (Table 2.1).

2.3. In Andhra Pradesh, the area under paddy increased from 32.58 lakh hectares in the triennium ending 1968/69 to 37.35 lakh hectares in the triennium ending 1978/79 indicating thereby an average rise of 0.48 hectares per annum. Area under the crop came down to 36.00 lakh hectares in 1980-81. At 38.02 lakh hectares in 1981/82 it was lower than the earlier peak reached in 1978/79 by 1.77 lakh hectares. Similarly in the case of Bihar and West Bengal, while the acreage under paddy went up from 50.60 lakh hectares and 47.34 lakh hectares to 54.93 and 51.32 lakh hectares respectively between the triennia ending 1968/69 and 1978/79, it declined to 53.70 and 50.97 lakh hectares respectively in the triennium ending 1981/82. In Madhya Pradesh where the acreage under paddy had expanded by an average of 0.47 lakh hectares per annum between the triennia ending 1968/69 and 1978/79, it did not show any increase thereafter. Also in Orissa, the area under paddy in 1979/80, 1980/81 and 1981/82 was lower than that in 1978/79.

2.4. Irrigated area under paddy went up from the average of 13.67 million hectares in the triennium ending 1968/69 to 16.20 million hectares by 1977/78 showing an annual increase of 2.5 lakh hectares. This figure increased to 16.85 million hectares in 1978/79. Preliminary estimates from State Governments for the principal paddy growing States suggest that it has hardly shown any increase subsequently. Expansion of fertilizer offtake in the kharif season in this period has also been low.

2.5. Output expanded from 35.94 million tonnes in the triennium ending 1968/69 to 52.67 million tonnes by 1977/78. Rice output peaked

at 53.77 million tonnes in 1978/79 and has remained around this level in 1980/81 and 1981/82. The growth performance between the triennia ending 1968/69 and 1978/79 was very impressive in three States of Punjab, Haryana and Uttar Pradesh. These three States together accounted for about 9.4 per cent of rice production in the country in the triennium ending 1968/69 but in the increase of 13.5 million tonnes of rice production between the triennia ending 1968/69 and 1978/79, the share of these States was as high as 38.5 per cent. In contrast, the States of Andhra Pradesh, Bihar, Orissa and West Bengal which together accounted for half of the country's rice production in the triennium ending 1968/69, contributed only around 30 per cent of the additions during the period. Similarly, the share of Tamil Nadu and Karnataka in the increased production was less than 10 per cent while their share in the rice production in the triennium ending 1968/69 was over 16 per cent. In the period subsequent to 1978/79 the growth of rice production slackened even in Punjab and Haryana. In Haryana and Punjab, the production of rice increased at an average of 0.75 and 2.04 lakh tonnes per annum between the triennia ending 1968/69 and 1978/79 respectively, but this rate dropped to 7,000 tonnes and 22,000 tonnes respectively after 1978/79.

2.6. It is significant that fluctuations in paddy production have been higher in some of the traditional paddy growing areas, where the new technology has not made its impact. During the past five years, the variation in rice output from trough to peak was as high as 144 per cent in Madhya Pradesh, 136 per cent in Uttar Pradesh, 61 per cent in Orissa and 60 per cent in Bihar; as against 23 per cent in Punjab, 24 per cent in Andhra Pradesh and 33 per cent in Haryana. This could be attributed mainly to the difference in irrigation and the spread of the high yielding varieties. Madhya Pradesh has only 16 per cent and 31 per cent of rice area under irrigation and high yielding varieties respectively. Although, Bihar has the largest area under rice but only one-third of this is under irrigation and no more than one-fourth is covered by high yielding varieties. In Punjab and Haryana, 93 to 95 per cent of total rice area is irrigated and covered by high yielding varieties.

2.7. For achieving the production target of 63 million tonnes of rice production in 1984/85, the Sixth Five Year Plan envisaged that area under paddy would go up to 41.27 million hectares in 1984/85, irrigated area to 20.69 million hectares and area under high yielding varieties would move up to 19.89 million hectares by

1984/85. Yield is expected to increase to 1524 kgs per hectare. The expansion in the area covered by high yielding varieties in the first two years of Sixth Plan has been remarkable, having gone up from 15.93 million hectares in 1979/80 to 19.33 million hectares in 1981/82. But the yield level achieved was 1336 kgs per hectare in 1980/81 and 1317 kgs per hectare in 1981/82. The lower than expected increase in yield levels could have come about on account of the lack of other synergistic factors like fertilizers and irrigation. Acceleration of irrigation facilities to paddy areas, land development and drainage facilities and appropriate support for fertilizer, seeds and working capital are of the highest importance.

2.8. An analysis of the growth of productivity of rice in the case of districts showing significant increases between the triennia ending 1973/74 and 1980/81, indicates that, in a number of districts within a State with comparable yield levels in the earlier period, the growth has been quite dissimilar. This indicates the considerable potential which remains to be realized in the large paddy growing areas of the country. The on going programmes for paddy development, the special programmes for small and marginal farmers and the subsidy for fertilizers, discussed elsewhere in this report, can with effective co-ordination, provide substantial impetus to the paddy economy, in relation to the Sixth Plan objectives.

2.9. The 1982/83 kharif season started with the monsoon being delayed in most parts of the country but with the on-set of rains at the end of July, it was anticipated that the situation would improve during August and September. However, these hopes were belied and most States experienced scanty and deficient rainfall conditions. Many districts of Tamil Nadu, Andhra Pradesh and Karnataka were severely affected. In the eastern region, excessive rainfall in the later part of the season led to floods which aggravated the losses due to drought earlier in the season. Nearly 200 districts in the country were affected by drought conditions. On account of these weather aberrations, almost all the important kharif crops have suffered badly during 1982/83 season. However, rice has been the worst hit. While firm estimates are yet not available, indications are that the rice output in the country during 1982/83 may be around 47 million tonnes.

Procurement and Distribution

2.10. In 1980/81 and 1981/82, the total rice procurement was of the order of 5.6 and 7.3 million tonnes, respectively, of this more than 55 per cent was contributed by Punjab and Haryana. Again during 1982/83 season the share of Punjab and Haryana in the total procurement of 6.38 million tonnes works out to over 60 per cent and the only State where the procurement in the current season has been significantly higher than that in 1981/82 is Punjab.

In 1981 and 1982, the total distribution of foodgrains including the supplies to N.R.E.P. was 13.0 and 14.8 million tonnes respectively. With the wheat stocks declining to a low level of 3 million tonnes by the end of March, 1981, the releases of rice had to be increased. As a consequence of this development, the stocks of rice which had increased from 1.14 million tonnes at the end of 1974 to 9.08 million tonnes at the end of 1979 started declining and came down to 6.58 million tonnes by the end of 1980, 6.12 million tonnes by the end of 1981 and further to 5.32 million tonnes by the end of 1982. The pressure of demand is likely to increase in 1983 when the full impact of the drought is felt. In the first three months of the 1983, the distribution of foodgrains was higher by 7.5 lakh tonnes over that in the corresponding months of 1982 and the increase in distribution of rice was 1.5 lakh tonnes. For 1983, wheat will not be a problem because of the expected good crop, but the offstake of rice may not be less than 7 million tonnes. The low stocks of rice and the expected increase in demand calls for increasing efforts for maximising procurement of rice in the coming season. (Tables 2.2, 2.3 and 2.4).

Systems of Procurement

2.11. The marketing system of rice follows a dual market pattern. Paddy is procured by public agencies as a part of the price support programme and is purchased by the rice millers at the market price. Rice millers have to deliver a proportion of the milled rice as a levy. Most States do not permit inter-State movements of paddy on account of the obvious economies in weight losing processing benefits close to production or marketing centres. Sale of rice is both through the public distribution system and the open market. In this context, it needs to be mentioned that in the last three years across States efforts made for increasing procurement have varied considerably. Levy on millers and dealers was adopted as the system of procurement by most States, though levy percentage varied from state to state and from year to year. Considering the three principal surplus States in the case of rice viz. Punjab, Haryana and Andhra Pradesh, it is observed that while Punjab and Haryana have been able to mop up more than 80 per cent of their estimated surpluses, but Andhra Pradesh despite imposing a levy of 50 per cent on millers/dealers have not been able to procure more than one-third of the estimated surplus, after allowing for the consumption and other requirements of the State, of over 30 lakh tonnes in any year between 1980/81 and 1982/83. Similarly, in Orissa, which is surplus as for as rice is concerned and where the market prices have often tended to rule around the procurement price during the post-harvest periods, the efforts made for procurement have been disappointing. In 1980/81, no formal levy on millers/dealers was imposed. However, in 1982-83, a levy of 60 per cent on millers/dealers was imposed but the total procurement so far has not exceeded 36,000 tonnes. The efforts

made in the deficit States also show large disparities. Comparing the two adjoining States of West Bengal and Bihar, it is observed that despite imposing a levy varying from 40 to 50 per cent on millers, Bihar procured 65 and 49 thousand tonnes in 1980/81 and 1981/82 respectively, while West Bengal which imposed a levy of 55 per cent in 1980/81 succeeded in procuring 1.43 lakh tonnes. The quantity procured in many States have been far less than suggested by the rate of the levy percentage. The Commission recommends that the State Governments placed in a somewhat similar situation be advised to follow similar patterns of procurement, while the States having large surpluses not only should impose high percentage of levy but should also ensure its implementation and the deficit States must also contribute to the procurement efforts by imposing and implementing a levy though of a lower order. (Appendix I).

2.12. A new trend seems to be emerging where State agencies purchase rice from the surplus States for distribution in their own State or on occasions from within the State, at prices higher than the procurement price. To the extent that such purchases are considered necessary, it would be advisable to monitor their quantum in the light of the emerging crop situation and to provide for them in sufficient time. This coordination would ensure more efficient operations by the concerned agencies and also provide for the benefits of such purchases being passed on to the farmer in terms of higher prices.

Price Differential among varieties

2.13. The Agricultural Prices Commission from 1979/80 season has been recommending procurement price for the varieties of paddy falling in the "common group". On the basis of its recommendation, the Government fixes the procurement price of common variety of paddy and also announces the procurement prices of paddy falling in the fine and superfine groups. An examination of the prices fixed by the Government for the last four years for common, fine and superfine varieties of paddy reveal that the price differential between the prices of common and fine, and also between fine and superfine has been kept uniform at Rs. 4 per quintal. However, during the period 1973/74 to 1976/77, the price differential between the different varieties of paddy ranged from Rs. 7 to Rs. 18 per quintal. In the post-harvest period of the last four years, the differential in the open market prices in the surplus States ranged from Rs. 8 to Rs. 10 per quintal between common and fine groups and from Rs. 12 to Rs. 15 per quintal in the fine and superfine varieties of paddy. This differential is higher in the deficit States. Recently, it has been observed that bulk of procurements of paddy and rice made by the Food Corporation of India and the other agencies on behalf of the Government is confined to two groups, namely fine and superfine in the major rice producing states of the country because the

cultivation of such varieties has been showing an increasing trend in these States. A remarkable achievement of the paddy economy in certain States has been the ability to increase areas and production under high yielding varieties of fine and superfine rice. Further, it is reported that these varieties are better suited for pressure par-boiling techniques and the par-boiled rice manufactured from these varieties is in great demand in the deficit States and gets a premia from the consumer. Certain superfine varieties of rice, apart from basmati also have potential for exports. In general, the Commission endorses a policy of using price policy to give appropriate signals for quality improvement in the agricultural sector. In view of these factors, the Commission recommends that the price differential between the Common, Fine and Superfine varieties of paddy be raised to Rs. 7 per quintal each.

Behaviour of Prices

2.14. With the new crop arrivals in the market, the all-India wholesale price index of rice, which was at the peak of 265.8 in September, 1982, recorded a seasonal decline of 2.4 per cent in the post-harvest months and stood at 259.4 in December, 1982. In the corresponding period of the preceding year, the price index had also fallen by 2.4 per cent. From January, 1983, the wholesale price index for rice started rising and during the first three months of 1983 recorded an increase of 5.7 per cent as against 1.0 per cent witnessed in the corresponding period of 1982. At 274.1 in March 1983, it was 18.5 per cent higher than that in March, 1982. (Table 2.5).

2.15. The wholesale prices of paddy during the post-harvest months of 1982-83 season ruled at levels above the procurement price. At Amritsar in Punjab, prices of JR-8 variety of paddy ruled at Rs. 124 per quintal in November, 1982 and Rs. 130 per quintal in December, 1982. At Karnal in Haryana, market prices in November and December, 1982 were quoted at Rs. 126 and Rs. 130 per quintal respectively and at Bahraich in Uttar Pradesh paddy was quoted at Rs. 135 per quintal in November and at Rs. 140 per quintal in December, 1982. In the deficit States of the country, wholesale prices of paddy during the 1982/83 post-harvest months ruled considerably above the level of fixed procurement price of Rs. 122 per quintal. At Sainthia in West Bengal, paddy price was quoted at Rs. 160 per quintal in November and at Rs. 150 per quintal in December, 1982. Wholesale price at Kolhapur in Maharashtra also ruled at Rs. 165 per quintal in these two months. The high level of prices in the deficit States was partly due to expected lower production and partly lesser supplies from the surplus States due to ban on movement. In Orissa, wholesale price of paddy at Jeypore was quoted at Rs. 122 per quintal in November and at Rs. 120 per quintal in December, 1982. (Table 2.6).

Cost of Production

2.16. Cost of cultivation/production data is now available from the Comprehensive Scheme for a number of States during the decade of the Seventies. A feature of the paddy economy of the country is that in the States in which technological progress has been relatively marked the unit costs of production were higher than those estimated for States where technological progress has been lagging. In Andhra Pradesh, the average application of fertilizer on sample holdings increased from around 55.4 to 122 kgs. per hectare between the triennia ending 1974/75 and 1980/81 and the sample yield increased from 23.41 to 31.60 quintals, whereas in Orissa the average fertilizer application on sample holdings was estimated to have varied between 6.7 kgs. to 22.6 kgs. and sample yield from 12.38 quintals to 19.17 quintals during the period 1971/72 to 1980/81. The unit cost of production in case of Andhra Pradesh increased from an average of Rs. 56.63 to Rs. 95.75 between the triennium ending 1973/74 and 1980/81, whereas in Orissa it increased from Rs. 42.11 to Rs. 78.67. Similarly, in West Bengal the unit cost increased from Rs 53.83 to Rs. 110.77 but in Assam the unit cost was estimated at Rs. 40.83 in 1972/73 and at Rs. 81.47 in 1979/80. In Andhra Pradesh, the return from paddy cultivation estimated as gross value of output—cost A2+family labour, works out to Rs. 926.80 per hectare in the triennium ending 1973/74. Despite a 35 per cent increase in the yield per hectare by the triennium ending 1980/81 the return increased only to Rs. 1176.95 per hectare. This indicates that productivity has been rising lower than factor input cost with consequent effect on the rate of return. In Orissa, the return per hectare works out to Rs. 564.07 in the triennium ending 1973/74 and it increased to Rs. 874.99 in the triennium ending 1980/81, despite the yield remaining almost the same. This then shows that the obstacles to the absorption of new technologies in the low productivity regions are not in terms of lack of opportunities but lie elsewhere in structural bottlenecks relating to

land and water management, input delivery systems and institutional factors. The case for strengthening those elements of the new technologies in paddy cultivation which makes it more cost effective is also clear. Under these conditions, the role of the subsidy policies, discussed in this report elsewhere becomes clear, since cost reducing factors would play a powerful role.

2.17 The cost of production estimates that have become available after the submission of the Commission's last report are for Tamil Nadu and Bihar for 1980-81, and for Orissa, Madhya Pradesh and Andhra Pradesh for 1981-82. Cost of production is estimated at Rs. 108.96 and Rs. 102.15 per quintal in Tamil Nadu and Bihar. Since 1980-81 the input price indices for these States have shown an increase of about 27 per cent and 38 per cent respectively. A relatively faster increase in the wage rate of labour is mainly responsible for the higher increase in the latter State. Adjusting these estimates for the rise in the input prices, unit cost works out at about Rs. 130 and Rs. 128 per quintal for Tamil Nadu and Bihar respectively. The estimate for Andhra Pradesh, Madhya Pradesh and Orissa are placed at Rs. 112.47, Rs. 101.06 and Rs. 106.02 per quintal for 1981-82 and after adjusting for the rise in the input prices since 1981-82, the unit cost of production per quintal works out at about Rs. 120, Rs. 107 and Rs. 113 per quintal respectively. (Tables 2.7 and 2.8)

2.18 Keeping in view the emerging demand and supply situation, trends in the input prices, cost of production, the need for stepping up rice production and maximising its procurement, the Commission recommends that the procurement price for the varieties of paddy in the "Common Group" be fixed at Rs. 132 per quintal* for the 1983-84 marketing season. The procurement prices for different varietal groups of rice be derived from the procurement prices for the respective varieties of paddy on the basis of hulling/milling ratios and the processing and incidental charges obtaining in different States.

B—COARSE CEREALS

Growth Performance

2.19 Area under coarse cereals (Kharif and Rabi) declined from 43.2 million hectares to 40.1 million hectares between the triennia ending 1968/69 and 1978/79, but on account of the increase in productivity from 538 to 686 kgs per hectare, the output increased by 4.2 million tonnes from 23.3 to 27.5 million tonnes. In 1981/82 area under these cereals remained at 40.2 million hectares, but production after showing a decline in 1979/80 increased to 28.3 million tonnes, due to improvements in productivity which reached 704 kgs per hectare in 1981/82.

2.20 Area under jowar declined from 18.4 million hectares to 16.1 million hectares between the triennia ending 1968/69 and 1978/79, but the output increased from 9.7 million tonnes to 11.3 million tonnes on account of improvements in productivity from 527 kgs to 705 kgs per hectare. After 1978/79 area and production of jowar did not show any increase but remained around the level of about 16 million hectares and 11 million tonnes respectively. In Maharashtra while the area under jowar increased by 0.8 lakh hectares by the triennium ending 1981/82, production increased only by 28 thousand tonnes. In

*Chaudhari Randhir Singh, Member recommends that the procurement price for the varieties of paddy in the "Common" group be fixed at Rs. 152 per quintal for 1983/84 marketing season. Further, as special weightage, price of this "Common" group of paddy be fixed at Rs. 157 per quintal for Southern, Western and North Eastern States where farmers are handicapped by comparatively higher production costs and risk element.

Madhya Pradesh, area increased to 22.8 lakh hectares and the production to 16.2 lakh tonnes by the triennium ending 1981/82. In Andhra Pradesh in the triennium ending 1981/82, area and production remained at around the level of 22.3 lakh hectares and 13.1 lakh tonnes respectively achieved in the triennium ending 1978/79. In Gujarat and Madhya Pradesh, yield levels of jowar in 1980/81 and 1981/82 were higher than those achieved in 1978/79. (Table 2.9)

2.21 Area under bajra declined from 12.4 million hectares to 11.1 million hectares between the triennia ending 1968/69 and 1978/79, but the output increased from 44.9 to 53.8 lakh tonnes because of increase in yield from 363 kgs to 486 kgs per hectare. In the triennium ending 1981/82, the area went up to 11.3 million hectares, but production declined to 48.7 lakh tonnes as the yield per hectare dropped to 431 kilograms. The area under bajra during the triennium ending 1981/82 was lower than that in triennium ending 1978/79 in all the States except Rajasthan and Uttar Pradesh where it increased from 40.7 and 9.8 lakh hectares to 47.5 and 10.0 lakh hectares respectively. However, in these two States the output of bajra declined by 3.2 lakh tonnes and 0.9 lakh tonnes respectively. In Karnataka and Tamil Nadu, production declined in this period on account of a decline in both area and productivity. However, in Andhra Pradesh, Gujarat and Maharashtra, output increased in this period. (Table 2.10)

2.22 Unlike jowar and bajra, area under maize went up from 5.5 million hectares to 5.8 million hectares between the triennia ending 1968/69 and 1978/79. Increase in area coupled with the improvement in productivity from 1030 kgs to 1063 kgs per hectare led to an increase in production from 5.6 to 6.2 million tonnes. The area further increased to 5.9 million hectares and the production to 6.4 million tonnes in the triennium ending 1981/82. In the two important States of Bihar and Uttar Pradesh, area under maize declined from 9.0 and 12.3 lakh hectares in the triennium ending 1978/79 respectively to 8.5 lakh hectares and 12.0 lakh hectares respectively in the triennium ending 1981/82. Yield per hectare in Bihar also dropped from 1073 kgs to 848 kgs during the same period. On the other hand, significant improvement in yield per hectare was achieved in Andhra Pradesh, Gujarat, Punjab and Jammu and Kashmir. While in Andhra Pradesh the yield of maize increased from 1141 kgs per hectare in 1978/79 to 1892 kgs per hectare in 1981/82, in Gujarat it moved up from 832 to 1269 kgs. (Table 2.11)

2.23 The area under ragi was 2.7 million hectares in 1978/79. In the following 3 years it remained below this level and was 2.6 million hectares in 1981/82. Also with the decline in yield during this period from 1183 kgs per hectare to 1118 kgs per hectare, the production went down from 3.2 million tonnes in 1978/79 to 2.9

million tonnes in 1981/82. The area and production between 1978/79 and 1981/82 recorded a fall in all the States except Orissa where the area increased from 2.8 lakh hectares to 3.1 lakh hectares and production from 2.1 lakh tonnes to 2.5 lakh tonnes. In Karnataka, the major ragi producing State in the country, the area declined from 11.5 lakh hectares in 1978/79 to 11.2 lakh hectares in 1981/82 and the production from 16.6 lakh tonnes to 14.4 lakh tonnes. The yield levels also dropped from 1440 to 1282 kgs per hectare. (Table 2.12)

2.24 The performance of kharif coarse cereals in the 1982/83 season is reported to be below average because of drought conditions prevalent in many States of the country. Technical innovations which have been a major source of agricultural growth have to be vigorously applied to the coarse grain crops. It is necessary to make an all out efforts to produce seeds capable of providing stable and substantially higher yield. Particularly for jowar, bajra and ragi drought resistant varieties alongwith well defined cultural practices need to be evolved. Coarse grain crops would be the principal beneficiaries of Dry Land Farming improvement programmes. There is a vast potential of raising output of these cereals particularly jowar and bajra. It is reported that the new technologies developed, which are a combination of improved water shed management and soil preparation practices, sowing ahead of the monsoon, use of fertilizer etc., can yield 20 quintals of jowar and 22 quintals of maize per hectare.

2.25 With the adoption of the rainfed technology, the production of kharif coarse cereals may show an increase. It is reported that the target of 3,824 micro-watersheds has already been exceeded. The States have taken up 4246 micro-watersheds for intensive development of dryland farming, covering an area of 29 lakh hectares. Besides, an area of 175 lakh hectares outside the watersheds has been brought under progressive introduction of various dry farming practices. 68,000 seed-cum-fertilizer drills (against the target of 19,600) and 1.47 lakh other minor implements have been distributed in the dryland areas. State Governments have also adopted more than 2,760 villages in the dryland areas for intensive development work. This opportunity will need to be coupled with a programme of price support for these grains in the major producing States. In 1981/82, the total procurement of kharif coarse cereals was 2.2 lakh tonnes mainly in Maharashtra and Madhya Pradesh.

Behaviour of Prices

2.26 The wholesale prices of all the major kharif coarse cereals viz. jowar, bajra, maize and ragi recorded a seasonal dip on the commencement of the arrivals out of the new crop of 1982/83 in the markets. The price index for jowar started falling from October, 1982 and continued to fall upto December, 1982. Between Septem-

ber and December, 1982 it declined by 6.6 per cent as against a fall of 4.9 per cent in the corresponding period of 1981. It started firming up from January onwards. At 229.8 in March, 1983 it was 3.9 per cent higher than that in March, 1982. In the case of bajra, the wholesale price index declined by 9.1 per cent between August and November 1982. Thereafter, it started rising and recorded an increase of 12.3 per cent upto March, 1983. The price index for maize which was at its peak at 249.9 in August, 1982 showed a seasonal decline of 2.5 per cent when it came down at 243.6 in October, 1982. Thereafter the price index started rising and registered an increase of 18.0 per cent by March, 1983. At 287.5 in March, 1983 the price index of maize was 19.5 per cent higher than that in March, 1982. In the case of ragi, the price index showed a decline of 0.3 per cent during September and October, 1982 but between October and March, 1983 it recorded an increase of 9.3 per cent. The price index of ragi at 228.2 in March, 1983 was higher by 6.6 per cent compared to that in March, 1982. (Table 2.13)

2.27 The wholesale prices of jowar, bajra, maize and ragi during the post-harvest months of 1982-83 marketing season ruled higher than the procurement price in almost all the important States of the country. At Nagpur in Maharashtra, the price of white jowar was quoted at Rs. 120 and 125 per quintal in November and December, 1982 respectively. However, at Hubli in Karnataka the wholesale price of hybrid jowar in the 1982-83 season ruled between Rs. 95 and Rs. 105 per quintal which are below the procurement price of Rs. 118.00 per quintal. In case of bajra, the wholesale prices at Jodhpur in Rajasthan ruled at Rs. 145 in November, 1982 and Rs. 150 per quintal in December, 1982. The wholesale prices of maize in the two important States of Bihar and Uttar Pradesh ruled higher than the procurement price. While at Khagaria in Bihar the wholesale price of red maize was quoted at Rs. 190 per quintal in November and December, 1982, at Bahraich in Uttar Pradesh

it was quoted at Rs. 160 per quintal. In the case of ragi, the wholesale price at Madnapalli in Andhra Pradesh was Rs. 150 per quintal in the post-harvest period of 1982-83. (Tables 2.14, 2.15, 2.16 and 2.17)

Cost of Production

2.28 As regards the cost of production, since the Commission submitted its last report, estimates have become available for jowar in Karnataka and Madhya Pradesh. For Karnataka, the estimates of cost of production for 1980-81 is placed at Rs. 74.29 per quintal. The estimates for Madhya Pradesh relate to 1981-82 and the cost of production is estimated at Rs. 113.51 per quintal. The variable input price index has shown a rise of about 36 per cent since 1980-81 in Karnataka and of about 10 per cent in Madhya Pradesh since 1981-82. The cost of production after adjusting for the rise in the variable input price works out to Rs. 89.73 per quintal in Karnataka and to Rs. 120.62 in Madhya Pradesh. In this context, it may be pointed out that the Commission in its last report had drawn attention towards the limitations of cost of production estimates arising from high inter-year variability in the yield in the case of coarse cereals. (Tables 2.18 and 2.19)

2.29 Considering the demand and supply situation developing in the case of coarse grains and the available information on cost of production, the Commission recommends that the procurement price of fair average quality of jowar, bajra maize and ragi be fixed at Rs. 124 per quintal* for the 1983-84 marketing season.

2.30 Procurement operations in coarse cereals particularly those grown with the new technologies, lead to difficult storage and distribution problems. Improved storage techniques as also a lower turn over period for such grains will need to be experimented with. The Commission recommends that the storage and distribution problems relating to coarse grains be examined in detail and solutions for effective price support programmes be planned for.

*Chaudhari Randhir Singh, Member recommends that the procurement price for the fair average quality of jowar, bajra, maize and ragi be fixed at Rs. 144 per quintal for the 1983-84 season.

III. KHARIF PULSES (Tur, Moong And Urad)

Production Performance

3.1 The general impression of stagnation and/or decline in pulses output is dominated by the performance in gram. The three important kharif pulses namely tur, moong and urad have performed well in the recent past. Area expansion and output growth in these pulses in the three year period, between the triennia ending 1978-79 and 1981-82, has been much higher than in the six year period between the triennia ending 1972-73 and 1978-79. In the earlier six year period, area under all the three pulses taken together increased by 11.5 per cent, from 6.50 to 7.25 million hectares, but in the latter three year period it increased by 16.5 per cent to 8.44 million hectares. Similarly production of the three pulses taken together increased by 12.4 per cent, from 3.04 to 3.42 million tonnes in the earlier six year period, but increased by 12.1 per cent in the latter three year period, rising to 3.83 million tonnes.

Kharif Pulses (Tur, Moong and Urad)	Triennium ending		
	1972-73	1978-79	1981-82
Area ('000 hectares)	6,497	7,245	8,438
Production ('000 tonnes)	3,040	3,417	3,829
Yield (Kg./hectare)	447	461	452

These encouraging acreage allocation and production trends have to be sustained and further intensified by improvements in yield. While the increasing tempo of development efforts including the evolution of short duration varieties have helped in this, the relative movement of prices has in no small measure contributed to the performance. Between the triennium 1967-68 to 1969-70 and triennium 1977-78 to 1979-80, the increase in farm harvest prices of kharif pulses relative to rice in different States ranged from 56 to 139 per cent for tur, 51 to 204 per cent for moong and from 37 to 81 per cent for urad. (Table 3.1)

3.2 The area and production of tur expanded from 26.2 lakh hectares and 18 lakh tonnes to 28.5 lakh hectares and 19.9 lakh tonnes respectively between the triennia ending 1969/70 and 1981-82. The increase in average yield was however nominal—687 kg. to 696 kg/hectare. There was significant expansion in area production in almost all the important tur producing States except Uttar Pradesh and Bihar. In fact, Gujarat is emerging as an important producer with acreage under tur increasing from 0.9 to 1.9 lakh hectares and production from 0.44 to 1.57 lakh tonnes. Area and production of tur have also been expanding in other States viz.

Orissa, Tamil Nadu and Punjab. On the other hand, Uttar Pradesh and Bihar have recorded a fall both in area and production despite substantial productivity increase while in Andhra Pradesh production fell despite increase in acreage, following steep productivity decline. The all-India area and production of tur attained a peak 29.8 lakh hectares and 22.4 lakh tonnes during 1981-82. The year saw a significant expansion in area and production over that of 28.4 lakh hectares and 19.6 lakh tonnes respectively in 1980-81. The average yield of tur works out to 751 kg. in 1981-82 as compared with 689 kg. in 1980-81 and 786 kg. per hectare in 1975-76. (Table 3.2)

3.3 Kharif moong accounted for 64 per cent of total area under moong but the yield being lower than that of rabi moong, its share in total production of the crop was only 55 per cent in 1981-82. A significant feature has been the expansion in rabi/summer moong, the area and production increasing from 5.5 lakh hectares and 2.6 lakh tonnes in 1970-71 to 10.4 lakh hectares and 4.9 lakh tonnes respectively in 1981-82. In Orissa alone rabi moong acreage more than doubled over this period from 3.0 to 6.1 lakh hectares. The cultivation of short duration summer moong also is reported to be fast expanding particularly under the special drive undertaken for this purpose. (Table 3.3)

3.4 The total area and production of moong (both kharif and rabi) improved from 18.4 lakh hectares and 5.1 lakh tonnes to 27.6 lakh hectares and 9.2 lakh tonnes respectively between triennia ending 1969-70 and 1981-82. Productivity also improved from 277 to 332 kg/hectare. Significant expansion in area took place in almost all the important moong producing States except Rajasthan where there was a substantial fall in area and yield. Production recorded an impressive increase in Orissa, Andhra Pradesh, Uttar Pradesh, Bihar, Karnataka and Tamil Nadu, helped by higher productivity also (except in case of Orissa). In Madhya Pradesh and Maharashtra there was a fall in productivity and consequently in production. During 1981/82, the all-India area and production of moong were estimated at a record 28.48 lakh hectares and 10.7 lakh tonnes respectively as compared to 28.43 lakh hectares and 9.8 lakh tonnes in 1980-81, the corresponding average yield being 377 kg. and 344 kg. per hectare. (Table 3.4)

3.5 Kharif urad has a major share of the crop claiming 75 per cent of total area and 70 per cent of total crop output in 1981/82. The area and production of urad (kharif and rabi) expanded from 14.7 lakh hectares and 4.6 lakh tonnes to

28.2 lakh hectares and 9.3 lakh tonnes respectively between triennia ending 1969-70 and 1981-82, while productivity increased from 316 to 328 kg/hectare. Data for Orissa have been included only since the last three years (*i.e.* from 1979-80). Although there was an impressive increase in area in Madhya Pradesh, Tamil Nadu, Uttar Pradesh, Rajasthan, Andhra Pradesh and Maharashtra, the increase in production was less than proportionate due to fall in productivity excepting in Tamil Nadu and Andhra Pradesh. The increase in yield has been most significant in Andhra Pradesh, 193 kg. to 411 kg/hectare over the two triennia. In West Bengal, both area and production declined. During 1981-82, the all-India area and production of urad stood at a peak 29.2 lakh hectares and 10.7 lakh tonnes, as against 28.3 lakh hectares and 9.6 lakh tonnes respectively in 1980-81. Over the period 1967-68 to 1981-82, the average yield of urad varied between 278 kg. and 365 kg. per hectare. (Tables 3.5 and 3.6)

3.6 While estimates for 1982-83 crop are not available, according to present indications, the acreage under kharif pulses (tur, moong and urad) this year may be more in Karnataka, Gujarat (tur), Rajasthan, Orissa as well as in Punjab and Haryana whereas in Andhra Pradesh, Maharashtra and Uttar Pradesh (tur and urad) it may be less than in 1981-82. The prospects are that kharif pulses output in 1982-83 may show a fall as a result of severe drought and also floods in several States. However, an intensive rabi campaign was reported to have been mounted to offset the loss in kharif.

Development Strategy

3.7 Pulses economy is characterised by low and highly variable crop productivity governed as it is by seasonal conditions. While the evolution of short duration varieties, which can be fitted in multiple and inter-cropping patterns, has increased the scope for enlarging pulses acreage without competing with the main crop, the central problem is that of raising the productivity and relative profitability of pulses besides imparting stability to yield. Given the rainfed nature of pulses cultivation, this problem has to be tackled essentially through improvement of agronomic management and suitable dry farming technology in the pulses habitat. Success would depend on improving the supply and use of inputs and services at the field level.

3.8 A major bottleneck in the seed multiplication programme is the paucity of breeder's seed. The multiplication of certified quality seeds of improved varieties and their timely distribution to farmers in adequate quantities ought to be accorded priority. Another important factor has been the negligible level of fertilizer application by farmers in the case of pulses. Farmers invariably prefer to apply fertilizers more to cereals and cash crops than to pulses. While atleast moderate use of fertilizers, specially

phosphatic, and seed treatment with rhizobium culture needs to be promoted for obtaining better yields, farmers have to be helped in appropriate water conservation practices so as to provide the crucial, although limited, irrigation input to the pulse crop in times of soil moisture stress.

3.9 Plant protection is another area where, apart from the subsidy that is being provided on ground/aerial spraying and chemicals, effective measures on a community basis need to be organised to minimise the heavy incidence of pests and diseases. Instead of the 'residual' approach all along, pulses ought to receive more individual attention in terms of inputs, management, extension and training like any other market oriented crop and given priority in the Dry Land Farming Special Programmes.

Price Behaviour

3.10 The sharp fall in pulses output during 1979-80 pushed up the prices. As a result, the annual average price index of pulses rose to 295.4 in 1980 from 242.8 in 1979. The price index rose further to 349.4 in 1981 despite the improvement in pulses output during 1980-81. However, prices of pulses registered a substantial decline in 1982 with the annual average index dropping to 307.3 following further improvement in output in 1981-82. The downtrend continued through January-March 1983 and prices ruled lower than in the corresponding months of 1982. The price index for pulses in March 1983 stood at 292.1 as compared with 300.1 in March, 1982. As regards individual pulses, while moong prices reflect a slackening trend during 1982 and the first quarter of 1983, tur and urad prices continued to manifest buoyancy. (Table 3.7)

3.11 In the case of tur, the annual average price index declined from 266.6 in 1978 to 243.4 in 1979 and to 242.0 in 1980. Despite the improvement in output, tur prices registered an increase in 1981 and 1982, the index rising to 274.1 and to 304.8 respectively. The price index for tur was 335.6 in March 1983 as against 289.9 in March 1982.

3.12 Moong prices followed an uptrend, the annual index moving up from 258.7 in 1978 to 305.1 in 1979, 313.2 in 1980 and to 339.5 in 1981. Moong prices registered a fall during 1982 the index dropping to 305.4. Prices during January—March 1983 also ruled lower than the corresponding levels in 1982. The price index for moong stood at 293.0 in March 1983 as compared with 313.3 in March 1982.

3.13 Prices of urad fell in 1980, the annual average index dropping to 234.4 from 241.4 in 1979, following an improvement in its output. However, urad price index (average) rose to 244.2 in 1981. The uptrend continued in 1982 and the price index rose to 318.3 in September, 1982. Although urad prices tended to decline since October, 1982, they ruled significantly

higher than the corresponding levels of previous year. The index in March, 1983 stood at 278.5, as compared with 229.9 in March, 1982.

3.14 Market prices of tur during the current season have generally been higher than in the last season. In the major tur producing States, wholesale prices in November-December 1982 were reported at Rs. 270—320 per quintal at Hapur (Uttar Pradesh), Rs. 410—360 at Aurangabad (Maharashtra), Rs. 410—365 at Raipur (Madhya Pradesh) and Rs. 475—370 at Gulbarga (Karnataka). The prices in respect of these centres for March 1983 (with last year's prices in brackets) were Rs. 362 (Rs. 300) per quintal at Hapur, Rs. 325 (Rs. 270) at Raipur, Rs. 430 (Rs. 350) at Gulbarga and Rs. 370 (Rs. 310) at Aurangabad. (Table 3.8)

3.15 Market prices of moong during the current season are observed to be generally lower than the last season. During November-December 1982, moong prices at selected centres in important moong producing States were Rs. 260-233 at Gulbarga (Karnataka), Rs. 265 at Vijayawada (Andhra Pradesh), Rs. 250 at Aurangabad (Maharashtra), Rs. 315 at Raipur (Madhya Pradesh) and Rs. 295-270 per quintal at Hapur (Uttar Pradesh). The prices for March, 1983 (with corresponding quotations for March 1982 in brackets) are Rs. 345 (Rs. 370 in February 1982) at Aurangabad, Rs. 328 (Rs. 330) at Hapur, Rs. 260 (Rs. 266) at Gulbarga and Rs. 305 (Rs. 340) per quintal at Raipur. (Table 3.9)

3.16 During the current season so far, prices of urad ruled higher than in the last season. During November-December 1982, urad wholesale prices at selected centres in important producing States ruled at Rs. 270 in Sagar (Madhya Pradesh), Rs. 325-312.50 at Bombay, Rs. 325-326 at Kanpur (Uttar Pradesh) and Rs. 351.51 at Madras. The price quotations for urad for March 1983 (with corresponding last year's quotations in brackets) are Rs. 345 (Rs. 270) at Bombay, Rs. 350 (Rs. 280) at Kanpur and Rs. 401.01 (Rs. 290.90) per quintal at Madras. (Table 3.10)

Price Support

3.17 Support prices for 1982-83 season have been fixed at Rs. 215 per quintal for tur, Rs. 230 per quintal for urad and at Rs. 240 per quintal for moong for the fair average quality of the produce, as recommended by the Commission. Prices during the current season ruled relatively high in case of tur and urad while in case of moong they were close to or even lower than the support level at some market centres. For example, the month-end wholesale price for moong was reported at Rs. 230 per quintal at Vijayawada (Andhra Pradesh) in January 1983, Rs. 233 per quintal at Gulbarga (Karnataka) and at Rs. 232 per quintal at Sagar (Madhya Pradesh) in December, 1982.

3.18 The Commission in its Report on price policy for gram and rapeseed/mustard for the 1982/83 crop submitted in October 1982 had drawn attention to the falling trend in prices of gram below the support level. Unfortunately, the price quotations for gram continue to show this trend even now, reflecting perhaps lack of adequate market support. In this connection the Commission would like to underscore the importance of backing up the price policy with effective supportive arrangements at the market level to enthuse the farmer in his production efforts, particularly in the context of the present expansion in kharif pulses (tur, moong and urad). This is all the more essential in case of States such as Orissa and Bihar where the market infrastructure is relatively weak.

3.19 Though NAFED has been entrusted with price support operations in case of pulses (gram, tur, moong and urad), it did not make any support purchases under this scheme. NAFED has however been making some commercial purchases of pulses but these too have been declining—from 33830 tonnes in 1979/80 to 14708 tonnes in 1980/81, 15763 tonnes in 1981/82 and to just 4278 tonnes in 1982/83. The pulses market continues to exhibit wide intra-seasonal price variations, the advantage accruing to the trade in the absence of effective public intervention. Prices normally tend to show a seasonal dip with the arrival of the major kharif crop which lasts for about four weeks or so. The Commission has therefore been emphasising the need for extending support as well as commercial purchase operations in respect of pulses by a public sector agency with a view to safeguard the interests of farmers in the crucial post-harvest period when the produce is unloaded on the market and prices tend to fall. Considering the scattered nature of pulses production and short span within which the purchases, mostly in small volumes, would be concentrated, the organisational network for these purchase operations would have to be large. The Commission therefore recommends that the Food Corporation of India be entrusted by the Government with the responsibility of making adequate arrangements for undertaking timely purchase operations in kharif pulses (tur, moong and urad) as well as gram. (Tables 3.11 to 3.13)

Cost of Production

3.20 In the case of kharif pulses, so far only two estimates have become available from the Comprehensive Scheme and these pertain to tur and urad in Madhya Pradesh for 1978/79 and 1979/80 respectively. The limitations of these estimates have been discussed by the Commission in its last report. In the case of pulses, the Commission would like to emphasise that more than unit costs of production it is the estimates of relative profitability of these crops vis-a-vis competing crops that are more relevant. It is expected that the switch over to the crop complex approach in the selection of the sample

in the Comprehensive Scheme from 1981/82 would enable generation of cost estimates for all the crops grown by sample farmers and in turn would make possible analysis of relative profitability. It is hoped that by the next season it would be possible to get such cost estimates generated simultaneously for all the crops grown by sample farmers. In the absence of cost of production estimates from the Comprehensive Scheme, the Commission has carefully examined estimates supplied by the State Governments. These, however, suffer from methodological limitations and lack comparability across States, and can be used only with great caution. To the extent they convey a directional focus, this has been taken into account.

3.21 While deciding upon the appropriate level of prices at which a public sector agency may undertake purchases of kharif pulses, should market prices for these pulses tend to fall unduly in the ensuing season, the Commission has taken into account all the relevant factors. Considering the increasing trend in kharif pulses output and the need to stimulate its growth through expansion of area under short duration varieties of tur, as also expansion of rabi/summer moong, the Commission recommends that the minimum support price for the fair average quality of the produce be fixed at Rs. 245 per quintal each for tur (or arhar) and urad and Rs. 250 per quintal for moong for the 1983/84 season.

IV. KHARIF OILSEEDS (GROUNDNUT, SOYABEAN AND SUNFLOWERSEED)

Production Performance

4.1 Groundnut is the most important oilseed in India, but its acreage base suffered erosion since 1967/68, in the face of competition from more profitable crops such as paddy. The rate of growth in groundnut area works out to (-) 0.15 per cent per annum compound during the period 1967/68 to 1981/82. Thus, between the triennium centered on 1969/70 and 1980/81, while the acreage under five major oilseeds (groundnut, rapeseed, mustard, sesamum, linseed and castorseed) increased from an average of 15.0 to 15.8 million hectares, thanks mainly to expansion in rapeseed/mustard, groundnut area fell from 7.3 to 7.1 million hectares. The area shift away from groundnut was conspicuous in Maharashtra (from 9.7 to 8.0 lakh hectares), Punjab, a high productivity State (from 2.2 to 0.9 lakh hectares), Madhya Pradesh (from 4.4 to 3.1 lakh hectares) and Uttar Pradesh (from 3.8 to 2.4 lakh hectares). (Tables 4.1 and 4.2)

4.2 With the yield going up from 712 kg. to 841 kg. per hectare, the output of groundnut, however, rose from an average of 51.6 to 60.0 lakh tonnes between the two triennia. Correspondingly, for the five major oilseeds as a whole, the yield went up from an average of 509 kg. to 572 kg. per hectare and aggregate production from an average of 76.3 to 90.1 lakh tonnes.

4.3 In the second half of the seventies, there was stagnation in oilseeds production. Oilseeds output rose to 99.1 lakh tonnes in 1975/76, of which groundnut was 67.5 lakh tonnes. During the five years (1976/77 to 1980/81) that followed, output did not show any improvement and fluctuated between 50.1 and 62.1 lakh tonnes in case of groundnut and between 78.3 and 93.5 lakh tonnes for the five major oilseeds. The spell of stagnation was broken in 1981/82 which was marked by all round improvement in agricultural production, and stood out even more for the impressive performance in oilseeds. Production of five major oilseeds during 1981/82 set a new record at 109.0 lakh tonnes. This represented an increase of 28.2 lakh tonnes over that of 80.8 lakh tonnes in 1980/81, and also surpassed, by nearly a million tonnes, the previous record of 99.1 lakh tonnes in 1975/76.

4.4 The increase in output in 1981/82 over 1980/81 was led by significant expansion in acreage and step-up in productivity of groundnut. Groundnut regained much of the acreage it had lost earlier and stood at 74.5 lakh hectares in 1981/82 compared with 68.0 lakh hectares in 1980/81 and 72.2 lakh hectares in 1975/76. With yield also recording a distinct improvement to 972 kg. per hectare over 736 kg. in 1980/81 and 935 kg. in 1975/76, groundnut production rose to a record 72.4 lakh tonnes in

1981/82, an increase of 22.3 lakh tonnes over 1980/81 and of 4.9 lakh tonnes over the previous 1975/76 peak.

4.5 An important development has been the seasonal shift in groundnut cultivation. Under the thrust of the development strategy, the irrigated rabi/summer groundnut which gives much higher yield than the kharif crop has been enlarging its share in the total crop. Rabi/summer groundnut is cultivated in Tamil Nadu, Andhra Pradesh, Karnataka, Orissa, Gujarat and Maharashtra. The latter two States, however, have started growing summer groundnut only recently and have made impressive progress. The total area and production of rabi/summer groundnut declined initially from 8.2 lakh hectares and 10.7 lakh tonnes in 1973/74 to 3.8 lakh hectares and 4.4 lakh tonnes in 1976/77 but expanded subsequently to a peak of 10.7 lakh hectares and 16.6 lakh tonnes respectively in 1981-82. The share of rabi/summer groundnut in the total crop thus increased to 14.4 per cent of area and 22.9 per cent of production during 1981/82. (Table 4.3)

4.6 In sharp contrast, between the two peaks, kharif groundnut, which still constitutes the bulk of the total crop, recorded a decline in its output from 61.0 lakh tonnes in 1975/76 to 55.6 lakh tonnes in 1981/82. This followed the fall in area from 67.6 to 63.8 lakh hectares and in productivity from 902 kg. to 876 kg. per hectare. Gujarat, Andhra Pradesh and Tamil Nadu were the only important groundnut producing States where there was an increase in area under the kharif crop.

4.7 Soyabean has been making rapid progress, particularly in Madhya Pradesh where it is concentrated. The area and production of soyabean which were only 0.32 lakh hectares and 0.13 lakh tonnes respectively in 1970/71 have been steadily expanding since then and rose to an estimated 6.1 lakh hectares and 4.5 lakh tonnes respectively in 1980/81 and 6.19 lakh hectares and 4.64 lakh tonnes in 1981/82. The acreage under soyabean is reported to have gone up further during 1982/83 and the production also is expected to be substantially higher than in 1981/82.

4.8 Sunflowerseed is produced mainly in Maharashtra and Karnataka which account for about 80 per cent of the total area and 86 per cent of total production of the crop. After the initial promise, the progress of the crop was reported to have lagged due to problems of non-availability of good quality seeds, high incidence of poorly filled seeds resulting in low yields and inadequate marketing facilities. However, there has been recovery during the last two years. The

area and production of sunflower, which had declined to 61 thousand hectares and 32 thousand tonnes in 1979/80, improved to 1.2 lakh hectares and 0.66 lakh tonnes in 1980/81 and to 2.3 lakh hectares and 1.3 lakh tonnes respectively in 1981/82. Over the three years, the average yield also increased from 519 to 575 kg. per hectare.

4.9 While precise estimates for the 1982/83 crop are not available at this stage, the dry spell during the South-West monsoon period was reported to have adversely affected kharif oilseeds, particularly groundnut, in the important oilseeds producing regions. As a result, kharif groundnut acreage could be lower this year as compared with 65.8 lakh hectares in 1981/82. Although intensive efforts have been made for increasing rabi oilseeds production including rabi/summer groundnut, present indications are that the overall size of the groundnut crop during 1982/83 might still show a significant fall from the record 1981/82 output.

Development Strategy

4.10 Given the predominantly rainfed nature of oilseeds cultivation and the low level of input application and management, crop productivity continues to be low and highly unstable depending upon seasonal conditions. Enlarging the irrigated base of oilseeds assumes particular importance in this connection for imparting stability to oilseeds production. While the extension that has taken place in the irrigated rabi/summer groundnut needs to be fostered, scarcity of water resources could prove to be a critical factor in the expansion of summer crop beyond a point particularly in Gujarat and Maharashtra. However, the bulk of groundnut and other oilseeds output would continue to be raised under rainfed conditions. The main thrust of the strategy therefore has to be on stepping up the productivity of rainfed oilseeds through dry farming techniques suited to different agro-climatic locations with a view to securing the production goals. While higher yields are possible even with the existing improved genetic varieties and crop technology, the crux of the problem lies in overcoming the practical constraints in the supply and efficient use of package of inputs and services at the field level for optimising oilseeds output. These are the objectives of the Dry Land Farming Project.

4.11 A serious limiting factor in the rapid spread of improved varieties with higher yield potential is the inadequacy of breeder and foundation seeds and the low seed multiplication ratio in the case of groundnut. Considering that certified quality seeds of location specific improved varieties are essential for augmenting production, it is imperative that all-out efforts are made to resolve this problem as expeditiously as possible so that these are available to the farmer in adequate quantities in time. These problems are also important at the current phase of sunflower development. In this connection it would

seem advantageous to encourage and actively involve private agencies also in seed development, now vested largely in public agencies, so as to help speed up the process of dissemination of improved varieties. Such involvement has of course to be subject to adequate quality control and other checks. It is also necessary to ensure optimum plant population and treatment of seeds with chemicals like Thiram and Captan in case of groundnut and soyabean besides the use of rhizobium culture for improving crop yields. Increase in the level of fertilizer use particularly under the predominantly unirrigated conditions, with special emphasis on phosphatic fertilisers supplemented by gypsum for groundnut, popularisation of water harvesting and conservation techniques to provide protective irrigation in the event of monsoon failure, systematic organisation of effective plant protection and efficient management are other vital development aspects which have to be pursued vigorously through extension and training programmes for improving the relative profitability of oilseeds.

Price Behaviour

4.12 Following the pronounced upswing in output, prices of oilseeds displayed a slackening trend during 1981/82 as compared with 1980/81. The wholesale price index for oilseeds as a group thus slipped from an average of 254.6 in 1980/81 to 244.0 in 1981/82. But prices of edible oils continued to be buoyant, the index for this group rising marginally from 256.0 to 256.5. In the wake of adverse weather conditions during 1982 kharif, and dimmed crop prospects, prices of oilseeds and edible oils during November-March of the current season (1982/83) ruled higher than the corresponding period of last season. There has, however, been some decline in prices since January-February. The index was 246.2 for 'oilseeds' group and 266.2 for 'edible oils' group in March, 1983 as compared with 231.0 and 252.2 respectively in March 1982. (Table 4.4)

4.13 This is also by and large the trend in case of groundnut and groundnut oil. The price index for groundnut declined from 268.1 in 1980/81 to 258.0 in 1981/82, whereas that of groundnut oil moved up from 272.2 to 273.7. During the current year (1982/83), groundnut prices showed a contra-seasonal rise in November 1982 with the index touching 278.8. Since then, prices declined, although they were still higher than last year. The price index for groundnut was 260.0 in March 1983 as compared with 245.1 in March 1982. Groundnut oil prices, on the other hand, were firm, the index being 283.3 in March 1983 as against 266.7 a year ago. (Table 4.5)

4.14 During the post-harvest months November-December 1982, wholesale prices for *groundnut in-shell* reported at selected centres were Rs. 385-400 at Nandyal (Andhra Pradesh), Rs. 406.25-382.50 at Rajkot (Gujarat), Rs. 300 at Khandwa (Madhya Pradesh) and Rs. 395-390

per quintal at Kanpur (U.P.). Prices for *shelled groundnut* were reported at Rs. 640-608 for Karad Bold at Bombay and at Rs. 587.50—606.25 at Madras. Prices registered a decline since then at all the aforesaid centres except at Kanpur and Khandwa. The month-end wholesale prices in March 1983 of groundnut-in-shell (with last year's corresponding prices in brackets) were Rs. 380 (Rs. 365) at Nandyal, Rs. 381.25 (Rs. 397) at Rajkot, Rs. 420 (Rs. 350) at Khandwa, Rs. 395 (Rs. 355) at Kanpur and for shelled groundnut Rs. 580 (Rs. 530) at Bombay (Karad Bold Kernel) and Rs. 550 (Rs. 462.50) at Madras. (Table 4.6)

4.15 Groundnut oil prices also ruled higher than in last season at most of the centres. The price quotations for March 1983 (with corresponding last year's figures in brackets) were Rs. 1419 (Rs. 1321) at Rajkot, Rs. 1372.50 (Rs. 1315.60) at Bombay and Rs. 1275 (Rs. 1120) at Madras. (Table 4.7)

4.16 Soyabean prices during the current year have been generally higher than those of last year in Madhya Pradesh at Dewas and Mahu centres. Wholesale prices were reported at Rs. 275—Rs. 283 in November-December 1982 at Dewas. The price quotations were Rs. 297 at Dewas and Rs. 269.50 per quintal at Mahu in March 1983 as against Rs. 274 and Rs. 240 respectively in March, 1982. (Table 4.8)

4.17 From the available meagre information, sunflowerseed prices during the current season are observed to be higher at Khamgaon centre and lower at Nagpur centre in Maharashtra than in the last season. The wholesale price was reported at Rs. 370 per quintal at Nagpur in March 1983 compared with Rs. 380 in March 1982. (Table 4.9)

4.18 Market prices of kharif oilseeds during the current season have generally been higher than the support levels of Rs. 295 in case of groundnut, Rs. 220 and Rs. 245 respectively for black and yellow soyabean and Rs. 250 for sunflowerseed announced by the government.

Price Support

4.19 The relative structure of market prices in recent years has tended to shift in favour of oilseeds as compared with cereal crops. Support prices also have been adjusted in favour of oilseeds vis-a-vis competing crops. For instance, between 1976/77 and 1982/83, the support price for groundnut was more than doubled from Rs. 140 to Rs. 295 per quintal, whereas the increase in procurement price of paddy was only 65 per cent, from Rs. 74 to Rs. 122 per quintal. In the context of the acute shortage in edible oils and considerable inter-seasonal and inter-market price spreads, the Commission has been emphasising the need for a public sector agency not only to ensure price stability, but also strong market support for the production efforts. This

has become all the more important now in view of the increasing tempo in oilseeds production in the traditional dry land areas and also in other areas including irrigation commands. Any such public sector agency would however need to function on a continuing basis to be able to develop the requisite infrastructure for efficiently discharging its price support role.

4.20 Although NAFED has been the agency entrusted with price support operations in case of oilseeds, it has hardly made any purchases under this scheme, except in case of soyabean. Even in case of soyabean, NAFED's support purchases have dwindled from 25917 tonnes in 1978/79 to a mere 10 tonnes in 1980/81 and 76 tonnes in 1981/82. NAFED and some other agencies like GROFED in Gujarat are however reported to be making open market purchases of oilseeds. While these commercial operations might lead selective support the substantive issue still is that of strengthening price support especially in the immediate post-harvest period so as to bring within its ambit the remote primary markets and vulnerable small and marginal farmers in oilseeds producing regions. NAFED in collaboration with the State level agencies needs to play this role more effectively. Detailed studies of groundnut marketing have shown the existence of unutilised purchasing and processing capabilities in the cooperative sector co-existing with private agencies pre-empting purchases. A reported handicap in this connection has been the non-availability of finance with the cooperative agencies. The Commission recommends that the financial institutions support economically viable commercial operations by cooperative agencies in oilseed markets. The Commission also urges that action be taken on its oft-repeated recommendation that a public sector agency with adequate processing, storage and other infrastructural facilities be established for undertaking, on a continuing basis, price support operations as well as commercial purchases and sales of oilseeds and edible oils. If NAFED is to do the job on a long term basis it would need to be strengthened and afforded adequate facilities for this purpose.

4.21 As has been repeatedly stressed by the Commission, in the final analysis, production, marketing, processing and other supportive institutional infrastructure and price policy are all integral parts of comprehensive programme for development of not only oilseeds but of other crops as well. In this connection the government's decision to set up a National Oilseeds Board for evolving an integrated approach to all aspects of production, marketing, processing etc. augurs well, for the future.

Cost of Production

4.22 The latest estimates of cost of cultivation from the Comprehensive Scheme relate to Gujarat and Madhya Pradesh for 1980/81 season. The cost of cultivation for Gujarat,

based on a sub-sample, is estimated at Rs. 2160.62 and the sample yield is placed at 7.20 quintals. For Madhya Pradesh, the cost of cultivation based on a main sample works out at Rs. 1968.54 and sample yield at 8.94 quintals. The corresponding estimates of cost of production per quintal for 1980/81 works out at Rs. 244.36 for Gujarat and Rs. 214.22 for Madhya Pradesh respectively. Since 1980/81, the variable input price index has shown a rise of about 30 per cent both in Gujarat and Madhya Pradesh. The cost of production after adjusting for the rise in variable input price index works out about Rs. 300 for Gujarat and at Rs. 250 for Madhya Pradesh (Tables 4.10 and 4.11).

4.23 While deciding upon the level of support price for the ensuing season, the Commission has kept in view all the relevant factors including the available information on cost of cultivation and the relative price structure of the kharif oilseeds. The Commission recommends that the support price for the fair average quality of the produce be fixed at Rs. 315 per quintal for groundnut-in-shell, Rs. 230 per quintal for soyabean (black variety), Rs. 255 per quintal for soyabean (yellow variety) and at Rs. 275 per quintal for sunflowerseed for the 1983/84 season.

V. RAW COTTON

Area

5.1 Area under cotton in the country in 1981/82 showed a marginal increase over 1980/81 and was around 8 million hectares. Of the increase of 1.64 lakh hectares in 1981/82 over the previous year, 0.57 lakh hectares was contributed by Andhra Pradesh and 0.45 lakh hectares by Maharashtra. The remaining increase was contributed by other States, except Gujarat which showed a fall in area (0.41 lakh hectares) for the fourth year in succession. According to present indications, area under cotton in 1982/83 is likely to remain at 1981/82 level, with a possible increase in the Northern region, off-set by a fall in the Western region. (Table 5.1)

5.2 Irrigated area under the fibre had been increasing for the last four years continuously, albeit at a slow rate. Between 1975/76 to 1981/82, irrigated area went up from 16.94 lakh hectares to 21.85 lakh hectares, and as a percentage of total area under cotton, the rise was from 23.0 per cent to 27.4 per cent. Raw cotton is one of the few crops in which a clear increase of about half a million hectares of irrigated area is in evidence in the recent periods. Significant increase in irrigated areas was recorded by Punjab, Rajasthan and Andhra Pradesh. However, by and large cotton continues to be a rainfed crop in the States of Maharashtra, Madhya Pradesh and Karnataka where, only 6 to 8 per cent of area received irrigation in 1981/82. In the States of Andhra Pradesh, Gujarat and Tamil Nadu, 22, 25 and 34 per cent of the cotton area respectively was reported as irrigated, whereas in Northern region, about 95 per cent of area under cotton was irrigated. (Table 5.2)

Production Performance

5.3 Cotton production, which had declined by 0.28 per cent per annum during 1960/61 to 1970/71, exhibited a rising trend thereafter and increased at the rate of 3.05 per cent per annum during the period 1972/73 to 1981/82. Production increased at the rate of 13.88 and 5.20 per cent per annum in the States of Andhra Pradesh and Haryana respectively followed by the States of Rajasthan (4.93%), Maharashtra (3.69%), Gujarat (3.15%), Punjab (1.20%) and Tamil Nadu (0.91%). However, production declined at the rate of 1.58 and 0.54 per cent per annum in the States of Karnataka and Madhya Pradesh respectively. During the same period, whereas production of long and medium staple cottons, recorded a growth of 8.01 and 2.99 per cent per annum, respectively, that of short staple cottons declined at the rate of 6.26 per cent per annum.

5.4 Productivity of cotton at All India level remained more or less stagnant during the decade 1960/61 to 1970/71. A productivity increase of 2.10 per cent per annum in the Northern region, during this period, was off-set by a decline of 1.11 and 1.01 per cent in the Southern and Western regions respectively. Beginning 1971/72, productivity registered a rising trend, notwithstanding annual fluctuations. During the period 1972/73 to 1981/82, growth rate or productivity at all-India never was 2.18 per cent per annum. Significant increase in productivity was recorded in Andhra Pradesh, Gujarat and Maharashtra at the rates of 9.68, 4.48 and 2.20 per cent per annum, respectively. The growth rates in the States of Haryana, Tamil Nadu and Rajasthan although positive were less than the All India rate, whereas, in the States of Karnataka (-8.16% per annum), Punjab (-1.98%) and Madhya Pradesh (-0.10%) growth of productivity was negative. In absolute terms, all-India per hectare yield of cotton in 1981/82 stood at 167 kgs; at 291 kgs. in Northern region, at 151 kgs. in Southern region and at 136 kgs. in Western region. (Table 5.3)

5.5 According to official estimates, cotton production in 1981/82 was placed at 78.3 lakh bales as against 70.1 lakh bales in 1980/81. However, trade estimates had placed the production at 84 and 78 lakh bales during the respective periods. Production estimates for 1982/83 are not available, although preliminary estimates from the principal cotton growing states indicated that production may be less than 80 lakh bales, against the trade estimate of 82 lakh bales. The fall in production is attributable to a series of natural calamities viz. acute and wide spread drought and floods in different parts of the country and cyclone in Gujarat and Andhra Pradesh. (Table 5.4)

Varietal Imbalance

5.6 There has been considerable discussion of imbalances in the production and consumption of cottons of different staple lengths since 1978/79. Adjustments in the production pattern were thus indicated so as to develop correspondence between the staple-wise pattern of production and structure of demand. In 1979/80 and 1980/81, some surpluses were indicated for the long staples and the possibilities of shortages in medium staples. Subsequently the consumption of medium staples declined, partly on account of the textile strike in Bombay mills. Also, the output of medium staples increased in 1981/82 and this trend has probably continued. Even so, keeping in view the future requirements of medium staple cottons, falling trend in the

productivity of these cottons in the cotton belt of Punjab and Haryana has to be arrested. The cotton growing areas in these States are seriously threatened by a rising water table, and, as a result, productivity of cotton in the last 4-5 years is showing a down trend which may aggravate the shortage of medium staple cottons. Production can be increased by accelerating the heterosis breeding programmes in these States. Further, area under high yielding medium staple varieties like SRT-1, C.J. 73 and V 797, grown in rainfed areas of Gujarat, can be stepped up.

5.7 As regards long staple cottons, in view of the fact that long years of research and high investments were involved in developing these Cottons, and provide better returns to the farmer, the problem of surpluses in such varieties which do not have ready domestic market at remunerative prices, can be met through regular exports.

5.8 The mill sector can also be induced to spin more of long staple cotton, as well as to avoid underspinning through excise readjustments. As a step in this direction, with effect from 26th June 1982, Government reduced effective rates of excise duty in respect of cotton fabrics in which the average count of yarn was between 41s and 50s. Such of the fabrics, from that date were liable to excise duty at rates varying from 2 to 15 per cent ad-valorem depending on the value of the fabrics instead of a flat rate of 15% ad-valorem in force till 25-6-82. As a further measure to encourage the production of polyester-cotton blended fabrics vis-a-vis polyester viscose blended fabrics, Union Budget 1983/84, has reduced the incidence of basic and additional duty on polyester-cotton fabrics containing more than 40 per cent but less than 50 per cent polyester from 15 per cent ad-valorem to 6.5 per cent ad-valorem. Similarly, overall incidence of duty on cotton yarn containing more than 40 per cent but less than 50 per cent polyester is reduced from Rs. 11.25 to Rs. 7.50 per kilogram. The Commission would however suggest that the situation may be kept under review so as to further improving the off-take of superior long varieties of cotton having spinnability above 51s, through suitable excise adjustments.

Estimates of Production

5.9 Studies bring out the unsatisfactory character of the information base. Official estimates of production have been consistently lower than the trade estimates. While there are inter and intra year variations, in case, official estimates are accepted, the cumulative supply-demand balance sheet cannot be matched through a number of years. For example during the period 1970/71 to 1981/82, cumulative estimated total off-take, including mill consumption of 84.36 million bales, was 92.35 million bales, against an estimated supply (on the basis of official estimated production of 80.40 million bales, carry over stock of 1.82 and imports of

3.96 million bales) of 86.18 million bales, thus showing an excess of use over supply of the large volume of 6.17 million bales. But on the basis of year-end stock position with mills, CCI and MSCMF, closing balance was around 2.27 million bales. Thus the cumulative gap between demand-supply balance was as large as 8.44 million bales. The trade estimates are also revised, as the season advances. Reliable estimates in time are therefore, not available for public policy purposes. With a view to strengthening the information base, for deciding upon the cotton policies, the existing provisions requiring the submission of periodical returns by the ginning and pressing factories on the quantities, specified in weight, of cotton ginned and pressed should be strictly enforced. The Commission, therefore reiterates its recommendation that information base be strengthened to provide timely and reliable estimates of the size of the crop. Also, the existing provisions regarding the submission of periodical returns by the ginning and pressing factories and the textile mills be strictly enforced.

Price Behaviour

5.10 In consonance with the easing of pressure on the available supplies of fibres, as a result of, increased production in 1981-82 and perceptible fall in mill consumption, prices of raw cotton showed a falling trend till April 1982. The index of wholesale prices of raw cotton, which stood at 240.3 in September, 1981, sharply fell to 198.2 in April 1982, but recovered to 209.9 in July 1982 and stood at 209.0 in the closing month of 1981-82. In the current cotton year, (Sept '82/August 1983), prices not only registered a declining trend, but have ruled at levels lower by 13 to 17 per cent over the corresponding months of the preceding year. During the period Sept. 1982 to February 1983, the index declined by 10 per cent from 207.4 in September 1982 to 186.4 in February 1983. The six monthly average index for the period Sept. 1982/February 1983 was lower by 14 per cent than the index for the same period of last year. However, on account of pick up in domestic demand and the release of an export quota of 6.81 lakh bales of staple cotton, prices have firmed up again. The index was 195.4 in March 1983 and is reported at 202.5 for the third week of April, 1983. (Table 5.5)

5.11 During 1982-83, prices for a few varieties in a large number of markets either touched the support level or fell below the support prices. For example, prices of J-34 variety at Bhatinda market in January 1983 ruled at the support level of Rs. 380 per quintal. Prices of Varalaxmi at the Raichur market stood at Rs. 420, 526 and 517 in September, October and November 1982 respectively against the support price of Rs. 560. At the Broach market, Digvijay cotton was sold at Rs. 400, 435, 460 and 500 in the months of December, January, February and March 1982-83 and Shankar-4 at Rs. 520 and 525 in December, January 1982/83 respectively. Prices of Laxmi cotton at Hubli (Karnataka)

stood at Rs. 341, 268, 302 and 449 in the months of December, January, February and March 1982-83 respectively against the support price of Rs. 415 per quintal. (Table 5.6)

5.12 Cotton lint prices of all the varieties in Bombay market since September 1982, had been below the prices of the corresponding months of 1981-82. For example, price of J-34, in February 1983 was Rs. 1026 per quintal against Rs. 1279 in February 1982, of Varalaxmi (A) Rs. 1480 against Rs. 1539 of H-4, Rs. 1378 against Rs. 1469 and of Digvijay, Rs. 1216 against Rs. 1350. On an average between September-February '83 as compared with the corresponding period in 1981-82, the fall in prices was of the order of 11.5 per cent. Lint prices have increased subsequently and average prices of eight selected varieties at Bombay market stood at Rs. 1481 showing an increase of 6.6 per cent over February 1983. (Table 5.7)

5.13 World cotton prices also exhibited downward trend in 1981-82, on account of a comfortable supply situation. The annual average "Cotton Outlook 'A' Index" dropped from 94.11 in 1980-81 to 73.76 cents per lb in 1981-82. The monthly index which stood at 80.72 cents in August 1981 dropped to 67.75 cents in December 1981 and thereafter moved upto 78.47 cents in July 1982. During 1982-83 (Upto November 1982), there was persistent drop in prices, on account of large supplies and weak demand. The index 'A' dropped from 76.27 cents per lb in August 1982 to 69.04 cents in November 1982. The index however started looking up from December 1982, following reports that prospective U.S. crop for 1983-84 would be reduced by about 25 per cent. In view of this situation, the release of further export quotas for raw cotton should be kept under continuous review.

5.14 Now that India has emerged on the International scene as an exporter of cotton, and has to face stiff competition from established exporters, levy of purchase tax by some of the State Governments on the cotton exported, adversely affects the competitive strength of the exporting agencies. Gujarat Government have recently issued a Notification exempting the exporting agencies from payment of purchase tax if the cotton is exported within a period of 24 months from the date of its purchase. If similar measures are adopted by the State Governments of Andhra Pradesh, Karnataka and Tamil Nadu, the competitiveness of exporting agencies will be improved.

Futures Trading

5.15 Increased stability in raw cotton prices will help the cotton growers by reducing the price spread between prices in the harvest and lean seasons and also permit improved planning of exports and production by the textile industry. With a relatively comfortable supply situation and a larger role being played by public sector trading agencies, the Commission recommends that a scheme of regulated futures trading be introduced in raw cotton.

Support Operations

5.16 The Commission would like to stress the crucial role that the Cotton Corporation of India is expected to perform in administering the scheme of support price. The Corporation, in the current year, upto 22nd March 1983, had purchased 6.6 lakh bales of cotton against 7.5 lakh bales purchased during the same period last year. In view of the sharp fall in prices since the start of the season, the Corporation, had to undertake substantial purchases, after a lapse of 10 years at support prices announced for 1982-83. In view of relatively improved supply situation for raw cotton, the need for support operations on a more continuous basis in the future cannot be ruled out. The CCI has therefore to plan for such operations and coordinate the details with the State level agencies. It is imperative that inordinate delays which took place between the announcement of the support price of the basic variety and notification of variety-wise support prices, and support purchase operations are not repeated again. In order to make the Corporation an effective instrument, for undertaking large scale support purchases, there appears to be a need to provide it credit at concessional rates. (Table 5.8)

5.17 The Corporation, however, continues to face difficulties in its operations on account of large scale sales outside the market yards in the States of Gujarat, Punjab, Haryana and Tamil Nadu. Further, absence of regulated markets or their non functioning in States like Gujarat, Tamil Nadu and Andhra Pradesh, besides non-availability/inadequacy of processing facilities and unduly high ginning and pressing charges in some States, were other difficulties facing the Corporation. The existence of an organised market is an important pre-requisite for effective intervention by the public agency. The Commission, recommends that high priority be accorded to the development of effective regulated markets in the cotton growing tracts of Gujarat, Andhra Pradesh and Tamil Nadu, as well as rationalisation of ginning and pressing charges at the State level.

5.18 The Maharashtra State Coop. Marketing Federation, which has been charged by the Government of Maharashtra with the responsibility of undertaking monopoly purchases of cotton produced in Maharashtra, as in the earlier years, undertook monopoly purchases at guaranteed prices. It is significant to note, that for its purchases during 1982-83, the Federation has brought down guaranteed prices and these now almost correspond to the support prices for the respective varieties announced by the Government of India. This development will go a long way in removing the distortions in cotton marketing.

Multiplicity of Varieties

5.19 In India more than 65 varieties of cotton are cultivated, of which minimum support prices for 40 odd varieties/group of varieties are

announced. Each of the cotton growing States of Western and Southern region grow more than 10 varieties of cotton, although in terms of staple Length and other characteristics, most of the varieties are nearly comparable and identical to each other. The problem of multiplicity of varieties seems to have aggravated over the years, as varieties once introduced, were seldom denotified inspite of the fact that they were no longer under commercial production. In fact, intensified research efforts developed an intense competition among the breeders to evolve high yielding short duration varieties which further added to the number of varieties in the States. According to the existing procedure/practice, it is the breeder who has to take an initiative and make out a case for discontinuing a particular variety and send his recommendations to the concerned State Government for denotification. Only thereafter the seed of that variety will not be produced as per the provisions of the Seed Act. Production of some of the varieties is insignificant but these continue to be on the notified list and their minimum support prices are also announced. If varieties which are no more economically beneficial, are denotified, it will help multiplication of certified seeds by the concerned agencies; and maintain the purity of the varieties at various post harvest stages. The Commission, therefore, recommends that the State Governments may examine the problem and initiate action for denotification of varieties which are redundant, and office of the Textile Commissioner may discontinue announcement of support price of those varieties.

Support Prices and Cost of Production

5.20 It has, of late, been demanded that the minimum support price should be recommended for all major varieties of cotton grown in the unirrigated areas. This is based on the argument that the producer of cotton in the States where most of the cotton area is unirrigated is put to a disadvantage, in as much as, the cost may not be fully covered by the prices fixed by the Textile Commissioner. In this regard it may be pointed out that it is not correct to say that the Commission makes its recommendations only on the basis of cost of production of Punjab cotton. Apart from Punjab, cost data for the principal cotton growing States, are also given due consideration by the Commission before arriving at the minimum support level for the basic variety. The Commission uses a particular variety only as a denominator for its price recommendation. In fact, it recommends a structure of prices for the different varieties of cotton. Logically the choice of the variety used as a denominator is an accounting device and in no material way affects the Commission's recommendations on the level and structure of prices for different varieties of raw cotton.

5.21 Estimates of cost of production from the Comprehensive Scheme based on a sample drawn following the crop complex approach have become available for Punjab and Madhya Pradesh for 1981-82. The cost of production is estimated at Rs. 331.38 per quintal in the case of Punjab and at Rs. 299.94 per quintal in Madhya Pradesh. These estimates when adjusted for the rise in variable input price index since 1981-82 works out at Rs. 344 for Punjab and at Rs. 307 per quintal in the case of Madhya Pradesh. In Punjab, about 23 per cent of area under cotton is under desi varieties for which the minimum support price was fixed at Rs. 315 per quintal for the 1982-83 season. In the remaining area American cottons like J-34, F-414 etc. are grown and the minimum support price for J-34 and F-414 was fixed at Rs. 380 and Rs. 395 per quintal respectively for the season. In case of long staple cotton, available estimates pertain to 1979-80 for Gujarat and the cost of production is placed at Rs. 423.19 per quintal. Considering the increase in the variable input price index since 1979-80 and the trend in the yield per hectare in Gujarat the cost of production is estimated at around Rs. 540 per quintal. (Tables 5.11 & 5.12).

5.22 Support price for raw cotton have been adjusted substantially upwards in 1982-83 and have played an important role in stabilising the cotton economy. Considering the emerging demand and supply situation, trend in the pattern of resource use and cost of production, the Commission recommends that the minimum support price for kapas of fair average quality of F-414/H-777 be fixed at Rs. 400* per quintal for the 1983-84 season and prices of varieties other than those in the group of long and superior long be fixed keeping in view the normal market price differentials, between this and other varieties. The Commission also recommends that the minimum support price for kapas of fair average quality of H-4 cotton be fixed at Rs. 527* per quintal for the 1983-84 season and the prices of other varieties in the group of long and superior long be fixed keeping in view the normal market price differentials between this and the other varieties. The recommended price of H-4 implies a price of Rs. 547 per quintal for kapas of fair average quality of Shankar-4 in Gujarat.

Sd/-

(YOGINDER K. ALAGH)

Sd/-

(CHAUDHARI RANDHIR SINGH)

Sd/-

(M. V. GEORGE)

May 16, 1983

*Chaudhari Randhir Singh, Member recommends that (a) the minimum support price for kapas of fair average quality of F-414/H-777 be fixed at rupees 450.00 per quintal for the 1983-84 season, and (b) the minimum support price for kapas of fair average quality of H-4 Cotton be fixed at rupees 577.00 per quintal for 1983-84 seasons.

TABLES

TABLE 1.1
Gross Cropped Area and Area under Forecast Crops
(Million Hectares)

Year	Gross Cropped Area	Area under Forecast Crops	Year	Gross Cropped Area	Area under Forecast Crops
1967-68	163.74	153.44	1974-75	164.19	155.19
1968-69	159.53	150.89	1975-76	170.99	163.03
1969-70	162.26	155.35	1976-77	167.28	158.77
1970-71	165.79	156.95	1977-78	172.31	163.81
1971-72	165.19	156.92	1978-79	175.18	166.48
1972-73	162.15	151.38	1979-80	167.20	160.56
1973-74	169.87	160.69	1980-81	171.00	162.18

E : Estimated.

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 1.2
Cropped and Irrigated Area during the triennia ending 1969-70 and 1978-79

('000 hectares)

State	Gross Cropped area		Net Cropped area		Gross Irrigated area		Net Irrigated area	
	1969-70	1978-79	1969-70	1978-79	1969-70	1978-79	1969-70	1978-79
1	2	3	4	5	6	7	8	9
Andhra Pradesh	12,789	12,507	11,266	10,956	3,914	4,411	2,998	3,483
Assam	2,803	3,311	2,276	2,679	585	572	585	572
Bihar	10,952	11,424	8,335	8,487	2,633	3,697	2,155	2,917
Gujarat	10,216	10,377	9,607	9,537	1,216	1,882	1,155	1,666
Haryana	4,715	5,413	3,445	3,647	1,934	2,818	1,284	1,860
Karnataka	10,589	10,678	10,078	9,913	1,300	1,664	1,153	1,337
Kerala	2,842	2,915	2,150	2,202	581	360	417	226
Madhya Pradesh	19,984	21,370	18,081	18,726	1,332	2,234	1,294	2,150
Maharashtra	19,333	19,814	18,366	18,257	1,554	2,277	1,361	1,875
Orissa	8,137	7,805	6,069	5,990	1,251	1,473	902	1,089
Punjab	5,409	6,435	3,986	4,172	3,789	5,260	2,607	3,178
Rajasthan	15,060	17,106	13,834	15,233	2,368	3,198	2,014	2,756
Tamil Nadu	7,128	7,533	6,014	6,184	3,280	3,514	2,518	2,680
Uttar Pradesh	22,012	23,600	17,413	17,426	7,280	10,108	6,346	8,548
West Bengal	6,787	7,796	5,560	5,754	1,499	1,541	1,478	1,489
All India	1,61,843	1,71,588	1,38,654	1,41,686	35,222	45,884	28,800	36,554

Source : Directorate of Economics and Statistics, Ministry of Agriculture

TABLE 1.3

Percentage Share of Crop Groups in Area under Kharif Crops

Crop Groups	Average Area under Crop Groups during the triennium ending		Percentage Share in the Total Area under Kharif Crops during the triennium ending	
	1969-70	1979-80	1969-70	1979-80
	1	2	3	4
Kharif Cereals . . .	72.26	72.03	71.9	70.9
Kharif Pulses . . .	9.14	10.14	9.1	10.0
Kharif Oilseeds . . .	10.13	10.01	10.1	9.9
Fibres	8.98	9.37	8.9	9.2
Total of the above Kharif Crops.	100.51	101.55	100.0	100.0

TABLE 1.4

Percentage Share in Area under Kharif Crops During the triennia ending 1969-70 and 1979-80

State	Percentage share in Area under Kharif Crops					
	Cereals		Oilseeds		Fibres	
	1969-70	1979-80	1969-70	1979-80	1969-70	1979-80
1	2	3	4	5	6	7
Andhra Pradesh	70.4	63.6	20.7	16.6	4.4	5.9
Assam	90.5	91.3	0.5	0.7	6.4	5.2
Bihar	94.0	88.2	2.0	2.4	2.2	2.7
Gujarat	51.7	40.2	25.0	28.3	20.2	22.8
Haryana	86.2	82.0	1.0	0.6	12.2	15.4
Karnataka	55.8	39.6	12.2	11.2	11.8	9.5
Madhya Pradesh	81.3	69.4	12.5	11.9	5.8	5.4
Maharashtra	63.5	49.5	13.3	14.1	21.7	19.1
Orissa	91.4	84.0	5.5	7.7	1.4	1.6
Punjab	62.4	65.2	13.2	5.9	23.3	26.8
Rajasthan	84.2	66.7	8.8	8.3	2.6	4.3
Tamil Nadu	76.3	69.7	16.9	13.2	4.8	5.1
Uttar Pradesh	82.8	77.1	15.8	15.2	1.1	0.8
West Bengal	89.1	84.2	0.8	2.0	8.2	9.8

TABLE 1.5

Changes in Gross Irrigated Area

('000 hectares)

Groups	Gross Irrigated Area		Change in Gross Irrigated Area	Percentage Distribution of Increase in Gross Irrigated Area
	Triennium ending			
	1969-70	1978-79		
1	2	3	4	5
Cereals & Millets.	25,773	33,655	+ 7,882	73.9
Total Pulses . . .	2,094	1,785	- 309	- 2.9
Total Food-grains.	27,837	35,440	+ 7,603	71.3
Other Food Crops.	3,687	4,928	+ 1,241	11.6
Total Food Crops.	31,524	40,368	+ 8,844	82.9
Total Oilseeds	718	1,433	+ 715	6.7
Total non-Food Crops.	3,689	5,246	+ 1,557	14.6
Total Irrigated (All Crops).	35,222	45,884*	+ 10,662	100.0

*Includes 270 thousand hectares for which details are not available.

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 1.6

Seasonwise Consumption of Fertiliser

Season	Percentage Change in Consumption over the preceding year		
	Kharif	Rabi	Total
	1	2	3
1976-77	18.0	17.8	17.9
1977-78	30.6	23.0	25.7
1978-79	24.4	16.5	19.4
1979-80	6.6	0.3	2.7
1980-81	3.8	5.7	5.9
1981-82	8.1	11.2	10.0
1982-83	(-) 1.9	10.6	5.8

Source : Annual Review of Fertiliser Consumption and production 1981-82.

TABLE 1.7

Changes in Farm Harvest Prices during the triennia ending 1969-70 and 1979-80

Crop	Average Farm Harvest Prices		Per-centage Change in 1979-80 (Col. 3) over 1969-70 (Col. 2)	Inter Crop Parity Index (Rice Price = 100)	
	1969-70 (Rs. per tonne)	1979-80		1969-70	1979-80
1	2	3	4	5	6
Rice	979	1,612	64.7	100.0	100.0
Groundnut	1,138	2,490	118.8	116.2	154.5
Cotton	1,542	3,541	129.6	157.5	219.7
Tur	978	3,058	212.7	99.9	189.7

TABLE 1.8

Indices of Prices Received and Prices Paid by Agricultural Sector

Year	(Triennium ending 1971-72=100)		
	Prices Received	Prices Paid	Terms of Trade (RX 100)
1	2	3	4
1977-78	164.8	181.6	90.7
1978-79	163.1	183.9	88.7
1979-80	179.0	209.3	85.5
1980-81	217.1P	244.8P	88.7
1981-82	238.1P	270.5P	88.0
1982-83	244.8P	278.8P	87.8

P : Provisional

TABLE 2.1
Rice : Area, Production and YieldArea : '000 hectares
Production : '000 tonnes
Yield : Kgs. per hectare

State	Triennium ending 1968-69	Triennium ending 1978-79	1979-80	1980-81	1981-82	Triennium ending 1981-82
1	2	3	4	5	6	7
<i>Andhra Pradesh</i>						
Area	3,258	3,735	3,469	3,600	3,802	3,624
Production	4,623	5,989	6,307	7,011	7,862	7,060
Yield	1,419	1,603	1,818	1,947	2,068	1,948
<i>Assam</i>						
Area	2,085	2,259	2,131	2,275	2,259	2,222
Production	1,996	2,205	1,881	2,523	2,243	2,216
Yield	957	976	883	1,109	993	997
<i>Bihar</i>						
Area	5,060	5,493	5,099	5,551	5,459	5,370
Production	3,858	5,246	3,595	5,635	4,261	4,497
Yield	762	955	705	1,015	781	837
<i>Haryana</i>						
Area	211	387	509	472	506	496
Production	258	1,003	942	1,228	1,250	1,140
Yield	1,223	2,592	1,851	2,602	2,470	2,298
<i>Himachal Pradesh</i>						
Area	97	92	92	110	92	98
Production	97	112	80	125	96	100
Yield	1,000	1,217	874	1,138	1,040	1,020
<i>Jammu & Kashmir</i>						
Area	230	260	268	265	265	266
Production	341	473	483	546	551	527
Yield	1,483	1,819	1,804	2,065	2,082	1,981
<i>Karnataka</i>						
Area	1,151	1,052	1,174	1,101	1,130	1,135
Production	1,811	1,979	2,370	2,208	2,207	2,262
Yield	1,573	1,881	2,019	2,006	1,953	1,993

TABLE 2.1—Contd.

State	Triennium ending 1968-69	Triennium ending 1978-79	1979-80	1980-81	1981-82	Triennium ending 1981-82
1	2	3	4	5	6	7
<i>Kerala</i>						
Area	845	831	793	802	788	794
Production	1,203	1,271	1,293	1,272	1,247	1,271
Yield	1,424	1,529	1,630	1,587	1,583	1,600
<i>Madhya Pradesh</i>						
Area	4,257	4,730	4,770	4,860	4,792	4,807
Production	2,703	3,599	1,825	4,053	3,799	3,226
Yield	635	761	383	834	793	671
<i>Maharashtra</i>						
Area	1,362	1,493	1,485	1,504	1,515	1,501
Production	1,290	2,183	1,829	2,361	2,435	2,208
Yield	947	1,462	1,231	1,570	1,607	1,471
<i>Orissa</i>						
Area	4,296	4,385	4,117	4,191	4,300	4,203
Production	4,049	3,980	2,918	4,301	4,692	3,970
Yield	943	908	709	1,026	1,091	945
<i>Punjab</i>						
Area	312	852	1,167	1,178	1,270	1,205
Production	404	2,442	3,041	3,223	3,755	3,340
Yield	1,295	2,866	2,606	2,736	2,957	2,772
<i>Rajasthan</i>						
Area	101	185	186	170	140	165
Production	58	228	100	150	139	130
Yield	574	1,232	540	881	991	788
<i>Tamil Nadu</i>						
Area	2,623	2,608	2,906	2,230	2,466	2,534
Production	4,044	5,160	5,800	4,159	5,578	5,179
Yield	1,542	1,979	1,996	1,865	2,262	2,044
<i>Uttar Pradesh</i>						
Area	4,455	4,889	5,052	5,292	5,308	5,217
Production	2,732	5,153	2,553	5,570	5,726	4,616
Yield	613	1,054	505	1,053	1,079	884
<i>West Bengal</i>						
Area	4,734	5,132	4,905	5,176	5,210	5,097
Production	5,427	6,707	5,887	7,466	5,833	6,395
Yield	1,146	1,307	1,200	1,442	1,120	1,255
<i>All-India</i>						
Area	36,218	39,759	39,414	40,152	40,706	40,091
Production	35,937	49,453	42,330	53,631	53,593	49,851
Yield	992	1,244	1,074	1,336	1,317	1,243

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

TABLE 2.2

Rice : Procurement

, 000 tonnes)

State	Marketing Year				
	1978-79	1979-80	1980-81	1981-82	1982-83*
1	2	3	4	5	6
Andhra Pradesh	1,042	469	693	1,098	1,268
Assam	32	10	37	44	22
Bihar	12	..	65	49	..
Gujarat	..	..	..	19	5
Haryana	887	556	670	882	701
Jammu & Kashmir	58	50	61	53	36
Kerala	1	..	..	..	..
Madhya Pradesh	306	90	340	367	182
Maharashtra	31	2	67	25	..
Karnataka	106	71	77	158	66
Orissa	58	26	123	115	38
Punjab	2,725	2,279	2,523	3,092	3,211
Tamil Nadu	71	133	179	573	397
Uttar Pradesh	837	71	588	709	509
West Bengal	145	67	143	45	1
All-India	6,334	3,843	5,572	7,271	6,483

*—Information available as on 9-5-83.

Source:—Department of Food, Ministry of Food and Civil Supplies.

TABLE 2.3
Public Distribution of Foodgrains

('000 tonnes)

Month	1980				1981				1982*				1983*			
	Rice	Wheat	Others	Total	Rice	Wheat	Others	Total	Rice	Wheat	Others	Total	Rice	Wheat	Others	Total
	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
January	377	762	4	1,143	339	532	21	892	548	600	12	1,160	608	813	2	1,423
February	380	871	5	1,256	393	479	14	886	554	593	6	1,153	687	758	34	1,379
March	433	721	5	1,159	489	574	10	1,073	619	651	5	1,275	678	837	21	1,536
April	393	560	5	958	468	451	19	938	565	555	9	1,129				
May	461	629	6	1,096	453	517	14	984	618	547	6	1,171				
June	456	599	12	1,067	510	507	19	1,036	611	541	10	1,162				
July	481	720	16	1,217	612	578	26	1,216	678	643	16	1,337				
August	460	644	15	1,119	635	555	21	1,211	705	519	13	1,237				
September	445	608	9	1,062	653	569	18	1,240	720	578	6	1,304				
October	411	580	9	1,000	558	540	4	1,102	625	579	8	1,212				
November	337	509	11	857	526	537	11	1,074	588	626	4	1,218				
December	391	564	20	975	521	559	8	1,088	606	728	2	1,336				
Total	5,025	7,767	117	12,909	6,157	6,398	185	12,740	7,437	7,160	97	14,694				
N.R.L.P.	1,032	1,052	..	2,084	244	29	..	273	77	16	..	93				
Grand Total	6,057	8,819	117	14,993	6,402	6,427	185	13,014	7,544	7,176	97	14,787				

*Provisional

Source :—Department of Food, Ministry of Food and Civil Supplies.

TABLE 2.4
Month end Stocks of Foodgrains

('000 tonnes)

Month	1980				1981				1982*				1983*			
	Rice	Wheat	Others	Total	Rice	Wheat	Others	Total	Rice	Wheat	Others	Total	Rice	Wheat	Others	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
January	9,055	7,342	125	16,522	7,010	4,299	105	11,414	6,518	4,800	127	11,445	5,569	6,681	215	12,465
February	8,922	6,306	132	15,360	7,042	3,736	103	11,881	6,608	4,599	147	11,354	5,609	6,093	228	11,930
March	8,404	5,234	146	13,784	6,645	3,053	111	9,809	6,308	4,442	167	10,917	5,621	5,554	215	11,390
April	8,016	5,506	154	13,676	6,205	3,454	121	9,780	6,030	4,209	176	10,415				
May	7,594	9,077	151	16,822	6,234	7,145	116	13,495	5,667	8,153	183	14,003				
June	7,062	8,882	139	16,083	5,794	7,713	103	13,610	5,097	10,129	195	15,421				
July	6,478	8,125	120	14,723	5,265	7,217	81	12,563	4,517	9,854	184	14,555				
August	5,824	7,374	107	13,305	4,573	6,658	59	11,287	3,776	9,149	171	13,096				
September	5,373	6,981	98	12,452	3,884	6,155	47	10,089	3,099	8,669	168	11,936				
October	5,437	6,058	98	11,593	4,106	5,734	56	9,896	3,255	8,103	161	11,519				
November	6,302	5,530	107	11,939	5,045	5,306	77	10,428	4,248	7,687	138	12,073				
December	6,576	4,980	113	11,669	6,124	5,104	116	11,344	5,320	7,145	146	12,611				

*Provisional -

Source : Department of Food, Ministry of Food & Civil Supplies.

TABLE 2.5
Rice : Index Numbers of Wholesale Prices

(Base 1970-71 = 100)

Month	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
1	2	3	4	5	6	7
November	161.8	164.8	192.3	206.1	229.6	262.8
December	153.3	160.0	190.5	200.8	228.8	259.4
January	152.4	158.2	191.2	203.2	229.2	259.6
February	150.0	157.8	191.0	211.0	229.6	269.1*
March	148.8	157.6	193.5	209.0	231.2	274.1*
April	154.9	163.0	195.5	209.5	233.0	
May	158.6	170.9	200.2	212.9	236.2	
June	162.3	168.7	205.8	218.2	241.3	
July	164.9	178.1	209.7	226.0	251.6	
August	164.4	184.2	209.8	233.7	264.5	
September	163.1	189.6	209.4	234.5	265.6	
October	163.5	193.1	206.7	230.2	264.6	

*Provisional.

Source—Office of the Economic Adviser, Ministry of Industry.

TABLE 2.6

Paddy : Month-end wholesale Prices

(Rs. per quintal)

State/Centre	Variety	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Andhra Pradesh</i>														
Kakinada	Akkullu	1978—79	100.00	100.00	80.00	80.00	80.00	84.00	84.00	100.00	105.33	113.33	113.33	114.66
		1979—80	113.33	101.33	97.33	105.33	109.33	110.66	114.66	120.00	124.00	128.00	124.00	125.33
		1980—81	126.66	128.00	116.00	117.33	121.33	127.33	137.33	138.66	149.33	160.00	N.A.	153.66
		1981—82	160.00	N.A.	164.00	140.00	140.00	140.00	153.33	160.00	166.66	166.66	168.00	166.60
		1982—83	166.66	N.A.	N.A.	166.66	N.A.	N.A.						
<i>Bihar</i>														
Darbhanga	Coarse	1978—79	115.00	100.00	110.00	120.00	123.00	127.00	127.00	132.00	135.00	140.00	140.00	120.00
		1979—80	110.00	115.00	120.00	130.00	135.00	145.00	N.A.	N.A.	145.00	138.00	140.00	135.00
		1980—81	N.A.	115.00	125.00	120.00	135.00	120.00	140.00	140.00	145.00	145.00	140.00	140.00
		1981—82	130.00	150.00	150.00	150.00	160.00	180.00	190.00	170.00	160.00	160.00	160.00	160.00
		1982—83	160.00	160.00	160.00	180.00	200.00	200.00						
<i>Gujarat</i>														
Gondal	Medium	1978—79	105.00	102.25	112.50	113.50	129.25	128.00	122.00	126.00	135.50	135.25	133.00	147.50
		1979—80	142.00	144.00	143.50	145.00	131.25	142.50	151.00	151.25	173.25	142.50	142.50	132.50
		1980—81	143.00	142.50	153.00	157.00	150.00	153.75	154.50	170.50	175.00	165.00	171.00	N.A.
		1981—82	157.00	160.00	155.00	166.25	183.75	180.00	195.00	193.75	206.50	201.00	218.75	217.50
		1982—83	181.25	175.00	175.00	185.00	216.25	237.50						
<i>Haryana</i>														
Karnal	Jhona	1978—79	86.00	87.50	84.00	84.00	84.00	83.00	83.50	N.A.	N.A.	80.00	103.00	97.00
		1979—80	103.90	97.00	95.00	92.00	93.00	94.00	N.A.	N.A.	N.A.	192.00	107.00	105.00
		1980—81	108.00	107.00	110.00	118.00	109.00	111.00	N.A.	N.A.	110.00	N.A.	135.00	121.00
		1981—82	128.50	120.00	118.00	121.00	121.00	123.00	125.00	N.A.	N.A.	N.A.	148.00	123.00
		1982—83	126.00	130.00	145.00	162.00	160.25	N.A.						
<i>Kerala</i>														
Palghat	Jaya	1978—79	100.00	110.00	124.00	100.00	100.00	100.00	119.00	114.00	120.00	118.00	110.00	91.00
		1979—80	108.00	120.00	118.00	120.00	119.00	124.00	129.00	138.00	138.00	119.00	110.00	115.00
		1980—81	138.00	138.00	157.00	162.00	160.00	176.00	176.00	181.00	N.A.	190.00	157.00	143.00
		1981—82	157.00	162.00	171.00	162.00	152.00	157.00	176.00	176.00	170.00	149.00	152.00	171.00
		1982—83	190.00	N.A.	223.00	229.00	229.00	229.00						

TABLE 2.6 (Contd.)

(Rs. per quintal)

State/Centre	Variety	Year	November	December	January	February	March	April	May	June	July	August	September	October
		3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Assam</i> Nandgaol	Coarse	1978-79	96.00	88.00	95.00	93.00	95.00	102.00	109.00	108.00	113.00	126.00	118.00	120.00
		1979-80	100.00	100.00	104.00	102.00	107.00	108.00	118.00	117.00	118.00	118.00	119.00	118.00
		1980-81	110.00	116.00	124.00	140.00	155.00	148.00	155.00	157.00	153.00	162.00	159.00	155.00
		1981-82	132.00	125.00	125.00	125.00	134.00	142.00	146.00	143.00	148.00	153.00	152.00	118.00
		1982-83	140.00	132.00	134.00	150.00	160.00	192.00						
<i>Madhya Pradesh</i> Raipur	Coarse	1978-79	90.00	88.00	88.00	93.00	100.00	101.00	98.00	102.00	108.00	115.00	138.00	121.00
		1979-80	118.00	111.00	111.00	116.00	116.00	120.00	123.00	138.00	132.00	124.00	128.00	118.00
		1980-81	111.00	114.00	115.00	117.00	119.00	118.00	124.00	125.00	132.00	138.00	125.00	118.00
		1981-82	136.00	125.00	129.00	130.00	134.00	136.00	138.00	N.A.	N.A.	N.A.	N.A.	N.A.
		1982-83	N.A.	N.A.	146.00	160.00	162.00	166.00						
<i>Maharashtra</i> Kolhapur	Coarse	1978-79	100.00	110.00	110.00	110.00	110.00	115.00	115.00	115.00	115.00	125.00	125.00	125.00
		1979-80	105.00	110.00	105.00	110.00	110.00	110.00	110.00	120.00	120.00	120.00	120.00	120.00
		1980-81	105.00	110.00	105.00	115.00	125.00	125.00	125.00	125.00	125.00	135.00	135.00	135.00
		1981-82	110.00	115.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00	125.00
		1982-83	165.00	165.00	155.00	155.00	160.00	160.00						
<i>Orissa</i> Jypore	Common	1978-79	81.25	85.00	86.25	85.00	87.50	90.00	97.50	102.50	102.50	112.50	115.00	112.50
		1979-80	90.50	95.00	100.00	100.00	112.00	125.50	127.50	127.50	127.50	127.50	125.00	125.00
		1980-81	100.00	100.00	105.00	110.00	125.00	125.00	130.00	133.33	150.00	160.00	143.75	115.00
		1981-82	117.50	122.50	127.50	127.50	131.25	132.50	142.50	153.75	155.75	153.75	156.25	143.75
		1982-83	122.00	120.00	132.50	133.75	140.00	156.25						
<i>Punjab</i> Amritsar	I.R. 20	1978-79	83.00	95.50	84.00	84.00	86.00	70.00	86.00	92.00	89.00	90.00	95.00	88.00
		1979-80	91.00	95.00	91.00	91.00	95.00	97.00	115.00	116.00	108.00	110.00	94.00	98.00
		1980-81	102.00	97.00	107.00	112.00	120.00	120.00	120.00	130.00	135.00	125.00	120.00	116.00
		1981-82	113.00	116.00	116.00	120.00	122.00	130.00	135.00	147.00	140.00	135.00	135.00	122.00
		1982-83	129.00	130.00	132.00	153.00	162.00	190.00						

TABLL 2.6 (Conclude /

(Rs. per quintal)

State/Ceentre	Variety	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Tamil Nadu</i>														
Tiruchirapalli	ADT-20	1978-79	131.58	131.58	97.92	96.49	94.73	98.24	114.03	122.81	126.31	131.58	133.33	133.33
		1979-80	140.35	122.61	105.26	115.79	122.81	131.58	135.09	135.09	151.89	149.11	143.76	151.29
		1980-81	166.67	166.67	161.40	189.47	173.68	184.21	178.95	219.30	219.30	219.30	219.30	224.36
		1981-82	224.58	228.07	142.10	145.61	145.61	152.63	161.40	157.89	194.21	166.47	175.44	192.28
		1982-83	201.75	192.98	210.52	236.84	219.29	210.52						
<i>Uttar Pradesh</i>														
Baharaich	Gr.-III	1978-79	86.00	88.00	88.00	83.00	85.00	86.00	92.00	96.00	96.00	95.00	98.00	95.00
		1979-80	110.00	118.00	107.00	110.00	96.00	118.00	123.00	130.00	132.00	130.00	110.00	120.00
		1980-81	107.00	106.00	112.00	116.00	116.00	120.00	N.A.	N.A.	N.A.	123.00	120.00	116.00
		1981-82	119.00	128.00	120.00	119.00	120.00	122.00	122.00	132.00	135.00	128.00	129.00	130.00
		1982-83	135.00	140.00	145.00	150.00	160.00	154.00						
<i>West Bengal</i>														
Sainthia	.	1978-79	95.00	93.00	100.00	105.00	105.00	114.00	112.00	118.00	130.00	130.00	130.00	130.00
		1979-80	N.A.	N.A.	N.A.	N.A.	130.00	132.00	128.00	132.00	132.00	132.00	134.00	125.00
		1980-81	130.00	N.A.	N.A.	120.00	120.00	125.00	125.00	125.00	135.00	145.00	N.A.	N.A.
		1981-82	N.A.	135.00	145.00	145.00	155.00	175.00	178.00	175.00	175.00	N.A.	200.00	200.00
		1982-83	160.00	150.00	N.A.	N.A.	200.00	210.00						

N.A. : Not Available.

TABLE 2-7

Paddy : Estimates of Cost of Cultivation, Production and related Data.

Item	Bihar	Tamil Nadu	Andhra Pradesh	Orissa	Madhya Pradesh
	1980-81	1980-81	1981-82	1981-82	1981-82
	2	3	4	5	6
Cost of cultivation per hectare (Rs.)					
A1	1171.66	2807.74	2392.01	1078.49	912.57
A2	1173.39	3046.42	2405.30	1193.13	912.57
B	1876.00	4329.53	3695.92	1781.18	1583.14
C	2088.68	4426.77	3844.92	2077.31	1799.30
Yield per hectare (quintals)	17.91	36.59	..	..	..
Value of the main product per hectare (Rs.)	1926.36	4843.99	..	..	..
Value of the by-product per hectare (Rs.)	259.18	439.85	..	..	..
Cost of production per quintal (Rs.)	50.95	64.71	65.42	54.70	52.12
A1					
A2	51.04	71.24	65.85	60.76	52.12
B	90.27	106.30	107.65	90.38	89.04
C	102.15	108.96	112.47	106.02	101.06
Material and labour Inputs used per hectare	49.78	92.05	71.95	89.52	94.39
Seed (Kgs.)					
Fertilizer (Kgs. in terms of nutrients)	21.45	124.29	122.24	9.22	21.72
Manure (Quintals)	9.55	38.83	51.50	24.87	4.69
Human labour (man hours)	958.98	1327.61	1121.00	1033.66	621.03
Bullock labour (pair hours)	198.59	226.26	145.00	274.81	157.17

NOTES : 1. The estimates are provisional.

2. Cost of production per quintal is obtained by dividing the cost of cultivation per hectare (net of the value of by-product) by the yield per hectare.

3. Cost A1 pertains to the paid-out costs or expenses incurred in cash and kind on material inputs, hired human labour, bullock and machine labour (both hired and owned), etc. When rent paid for leased-in land is added to cost A1, one gets Cost A2, i.e. paid-out costs of a tenant cultivator. Cost B is obtained with the addition to Cost A2 of imputed rental value of owned land and interest on owned fixed capital, and Cost C, with the further addition of the imputed value of the family labour.

4. The estimates for 1981-82 are based on Sample selected following Crop Complex approach.

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

TABLE 2.8
Paddy : Break-up of Cost of Cultivation per hectares

Cost Items	Bihar	Tamil Nadu	Andhra Pradesh	Orissa	Madhya Pradesh
	1980—81	1980—81	1981—82	1981—82	1981—82
1	2	3	4	5	6
<i>Operational Cost</i>	1344.68	2821.44	2436.03	1323.49	1060.07
<i>Human labour</i>	689.20	1180.44	908.00	654.07	418.90
Casual	381.92	1051.47	700.00	316.77	134.58
Attached	94.60	31.73	59.00	41.17	68.16
Family	212.68	97.24	149.00	296.13	216.16
<i>Bullock labour</i>	367.18	435.21	220.40	349.65	337.24
Hired	9.41	61.95	85.88	5.05	9.95
Owned	357.77	373.26	134.52	344.60	327.29
<i>Machine labour</i>	6.17	80.19	122.20	0.29	0.52
Hired	3.93	71.16	119.49	0.10	..
Owned	2.24	9.03	2.71	0.19	0.52
Seed	86.53	165.82	130.22	124.12	130.78
<i>Fertilizer and Manure</i>	154.64	657.10	809.14	157.68	132.63
Fertilizer	114.92	546.38	675.24	57.29	110.91
Manure	39.72	110.72	133.90	100.39	21.72
Insecticides	..	44.93	42.70	1.39	9.49
Irrigation charges	6.66	175.20	134.07	5.16	4.93
Interest on working capital	34.30	82.55	69.30	31.13	25.58
<i>Fixed Cost</i>	744.00	1605.33	1408.89	753.82	739.23
Rental value of owned land	620.56	1000.41	1179.02	489.05	561.33
Rent paid for leased in land	1.73	238.68	13.29	114.64	..
Land revenue, cesses and taxes	19.98	36.93	27.74	8.62	1.97
Depreciation on implements and farm buildings	19.69	46.60	77.24	42.51	66.69
Interest on fixed capital	82.04	282.71	111.60	99.00	109.24
TOTAL COST	2088.68	426.77	3844.92	2077.31	1799.30

TABLE 2.9
Jowar : Area, Production and Yield

	Area	Production	Yield			
	: '000 hectares	: '000 tonnes	: Kgs. per hectare			
State	Triennium ending 1968—69	Triennium ending 1978—79	1979—80	1980—81	1981—82	Triennium ending 1981—82
1	2	3	4	5	6	7
<i>Andhra Pradesh</i>						
Area	2,567	2,232	2,400	2,054	2,178	2,211
Production	1,357	1,305	1,656	1,082	1,263	1,324
Yield	529	585	690	527	580	599
<i>Gujarat</i>						
Area	1,312	1,034	946	906	938	930
Production	347	570	557	583	564	568
Yield	264	551	589	644	602	611
<i>Karnataka</i>						
Area	2,820	1,912	1,932	1,648	1,651	1,744
Production	1,501	1,616	1,839	1,269	1,318	1,475
Yield	532	845	952	770	798	846
<i>Madhya Pradesh</i>						
Area	2,504	1,900	2,148	2,352	2,330	2,277
Production	1,759	1,341	1,110	1,815	1,921	1,615
Yield	702	706	517	772	824	709
<i>Madhprashtra</i>						
Area	6,222	6,534	6,825	6,438	6,578	6,614
Production	3,383	4,900	5,464	4,428	4,891	4,928
Yield	544	750	801	688	744	745
<i>Rajasthan</i>						
Area	1,083	797	848	1,002	969	940
Production	324	324	153	338	408	300
Yield	299	407	181	337	421	319
<i>Tamil Nadu</i>						
Area	720	763	721	537	650	636
Production	528	716	652	426	539	539
Yield	733	938	904	793	829	848
<i>Uttar Pradesh</i>						
Area	876	678	680	678	683	680
Production	427	505	166	406	586	386
Yield	487	745	244	599	858	568
<i>All-India</i>						
Area	18,403	16,079	16,674	15,809	16,158	16,214
Production	9,692	11,341	11,648	10,431	11,571	11,217
Yield	527	705	699	660	716	692

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

TABLE 2.10

Bajra : Area, Production and Yield

State	Triennium	Triennium	1979—80	1980—81	1981—82	Triennium
	ending	ending				ending
	1968—69	1978—79				1981—82
1	2	3	4	5	6	7
<i>Andhra Pradesh</i>						
Area	606	566	452	516	548	505
Production	297	327	295	336	444	358
Yield	490	578	654	652	810	7,099
<i>Gujarat</i>						
Area	1,672	1,464	1,257	1,380	1,433	1,357
Production	913	1,279	1,332	1,220	1,473	1,342
Yield	546	874	1,060	885	1,028	989
<i>Haryana</i>						
Area	883	902	834	881	852	856
Production	377	405	281	484	496	420
Yield	427	449	337	549	582	491
<i>Karnataka</i>						
Area	565	618	660	504	509	558
Production	142	290	244	154	201	200
Yield	251	469	370	305	396	358
<i>Maharashtra</i>						
Area	1,813	1,701	1,428	1,709	1,744	1,627
Production	498	623	607	760	779	715
Yield	275	366	425	445	447	439
<i>Punjab</i>						
Area	195	120	46	71	60	59
Production	186	119	47	89	60	65
Yield	954	992	1,022	1,254	1,000	1,102
<i>Rajasthan</i>						
Area	4,823	4,071	4,266	5,032	4,941	4,746
Production	1,051	1,092	381	1,135	803	773
Yield	218	268	89	226	163	163
<i>Tamil Nadu</i>						
Area	438	434	370	319	369	353
Production	297	430	329	268	284	294
Yield	678	991	889	840	768	833
<i>Uttar Pradesh</i>						
Area	1,042	975	1,043	995	972	1,003
Production	529	676	367	733	658	586
Yield	508	693	352	737	677	587
<i>All India</i>						
Area	12,367	11,083	10,579	11,657	11,660	11,299
Production	4,485	5,383	3,948	5,343	5,317	4,869
Yield	363	486	373	458	456	431

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 2.11
Maize : Area, Production and Yield

State	Triennium	Triennium	1979—80	1980—81	1981—82	Triennium
	ending 1968—69	ending 1978—79					ending 1981—82
1	2	3	4	5	6	7
<i>Andhra Pradesh</i>						
Area	232	305	290	321	332	314
Production	231	379	394	725	628	582
Yield	996	1,243	1,359	2,263	1,892	1,853
<i>Bihar</i>						
Area	935	904	829	883	829	847
Production	1,033	970	785	870	733	796
Yield	1,105	1,073	947	985	884	940
<i>Gujarat</i>						
Area	246	284	305	308	312	308
Production	190	197	139	403	396	313
Yield	772	694	454	1,310	1,269	1,016
<i>Himachal Pradesh</i>						
Area	249	281	281	289	286	285
Production	434	472	449	523	460	477
Yield	1,743	1,680	1,595	1,812	1,608	1,674
<i>Jammu & Kashmir</i>						
Area	246	273	269	275	279	274
Production	246	378	363	493	461	439
Yield	1,000	1,385	1,346	1,793	1,656	1,602
<i>Karnataka</i>						
Area	37	147	145	144	153	147
Production	69	412	387	371	431	396
Yield	1,865	2,803	2,670	2,584	2,821	2,694
<i>Madhya Pradesh</i>						
Area	592	693	751	779	772	767
Production	492	637	541	713	757	670
Yield	831	919	720	916	980	874
<i>Punjab</i>						
Area	467	477	390	378	339	369
Production	713	676	672	605	623	633
Yield	1,527	1,417	1,723	1,601	1,838	1,715
<i>Rajasthan</i>						
Area	761	773	880	900	918	899
Production	754	627	574	786	747	702
Yield	991	811	652	872	814	781
<i>Uttar Pradesh</i>						
Area	1,407	1,231	1,153	1,224	1,211	1,196
Production	1,183	952	912	894	984	930
Yield	841	773	791	731	813	778
<i>All-India</i>						
Area	5,458	5,814	5,721	6,005	5,898	5,875
Production	5,622	6,178	5,603	6,957	6,760	6,440
Yield	1,030	1,063	979	1,159	1,146	1,096

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

TABLE 2.12
Ragi : Area, Production and Yield

Area : '000 hectares
Production : '000 tonnes
Yield : Kgs. per hectare

State	1970—71	1971—72	1972—73	1973—74	1974—75	1975—76	1976—77	1977—78	1978—79	1979—80	1980—81	1981—82
1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Andhra Pradesh</i>												
Area	290	273	239	255	289	324	325	328	312	251	254	265
Production	231	265	321	274	318	370	308	353	343	265	245	292
Yield	795	972	924	1,077	1,099	1,143	946	1,077	1,102	1,058	965	1,100
<i>Bihar</i>												
Area	177	136	145	167	161	181	189	182	180	163	177	171
Production	91	53	63	93	72	77	96	119	124	79	114	94
Yield	515	391	434	555	451	425	508	653	689	480	644	552
<i>Karnataka</i>												
Area	974	962	937	996	1,004	1,048	915	1,013	1,153	1,182	1,063	1,123
Production	919	861	811	770	803	1,222	726	1,370	1,661	1,451	1,094	1,440
Yield	944	895	865	773	804	1,366	794	1,352	1,440	1,236	1,029	1,282
<i>Maharashtra</i>												
Area	223	220	195	197	209	211	220	224	223	220	221	225
Production	193	175	85	194	180	188	175	172	201	202	210	228
Yield	866	792	433	983	860	892	798	770	900	918	947	1,012
<i>Orissa</i>												
Area	156	160	168	172	191	236	255	277	277	267	336	309
Production	141	150	144	140	123	173	138	196	209	147	265	251
Yield	901	935	860	815	643	732	543	706	755	549	787	812
<i>Tamil Nadu</i>												
Area	297	292	279	263	283	320	290	291	280	252	193	250
Production	303	329	282	319	348	479	340	410	421	378	251	382
Yield	1,022	1,126	1,011	1,211	1,230	1,498	1,170	1,411	1,502	1,498	1,304	1,529
<i>Uttar Pradesh</i>												
Area	251	274	259	203	213	184	194	175	174	170	171	167
Production	196	289	258	195	215	186	187	168	170	112	164	150
Yield	782	1,056	994	961	1,010	1,015	964	962	977	659	963	895
<i>All India</i>												
Area	2,472	2,425	2,329	2,360	2,464	2,630	2,496	2,600	2,705	2,615	2,525	2,618
Production	2,156	2,209	1,923	2,072	2,136	2,797	2,045	2,866	3,200	2,722	2,420	2,926
Yield	872	911	826	878	867	1,064	819	1,102	1,183	1,041	958	1,118

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 2.13
 Cereals : Index Numbers of Wholesale Prices

(Base : 1970—71 = 100)

Commodity	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14
...	1977—78	149.5	155.5	162.1	158.0	161.5	159.4	158.2	162.4	160.6	157.3	154.2	152.4
	1978—79	150.7	150.5	152.1	152.6	147.5	149.3	148.9	156.9	164.6	171.0	176.5	173.2
	1979—80	172.4	179.7	179.4	170.6	168.7	167.7	173.8	184.1	191.1	191.2	190.0	188.3
	1980—81	199.5	206.9	203.1	212.6	222.7	237.6	252.0	251.3	252.2	250.5	246.6	244.3
	1981—82	235.4	234.7	240.9	231.4	221.2	225.8	225.2	224.3	223.3	223.7	224.4	219.6
	1982—83	214.7	209.6	214.0	224.8	229.8							
...	1977—78	170.0	193.7	182.2	172.2	168.8	166.1	160.0	156.7	152.8	145.8	143.7	137.0
	1978—79	140.4	143.0	143.1	139.3	138.0	141.9	142.0	141.6	143.8	152.0	164.5	160.3
	1979—80	169.0	190.4	189.4	186.7	196.5	197.6	193.8	194.2	196.4	193.7	184.4	181.4
	1980—81	189.9	197.2	201.0	212.0	211.6	215.7	222.8	226.1	238.4	249.6	247.2	227.9
	1981—82	221.1	221.7	225.7	221.7	219.9	227.8	228.3	227.6	226.6	229.6	218.2	212.1
	1982—83	208.8	212.4	219.3	229.6	234.4							
...	1977—78	169.2	185.9	187.5	182.3	186.1	181.4	180.4	182.2	180.0	176.1	174.9	165.7
	1978—79	167.0	167.6	167.8	166.0	171.4	167.7	163.1	171.2	184.7	191.8	193.4	183.5
	1979—80	185.0	193.2	195.5	197.5	198.6	192.8	203.9	216.8	220.3	213.5	192.4	183.3
	1980—81	194.0	198.5	212.3	225.1	223.7	220.8	225.8	232.9	238.7	254.2	249.1	228.1
	1981—82	227.3	228.6	238.8	239.7	240.5	236.7	231.4	236.0	246.3	249.9	248.1	243.6
	1982—83	256.6	251.3	257.4	274.3	287.5							
...	1977—78	158.0	167.8	168.9	161.7	154.3	146.5	139.4	142.2	147.8	143.7	140.2	138.2
	1978—79	135.8	131.8	130.6	128.0	127.5	122.8	124.6	129.8	136.0	142.3	137.2	137.9
	1979—80	142.9	149.2	150.6	153.4	157.5	152.6	153.6	159.3	171.1	170.7	187.3	192.3
	1980—81	195.2	208.6	209.9	225.6	236.8	226.2	231.9	234.1	252.5	266.4	256.0	238.6
	1981—82	233.2	222.7	216.7	217.4	214.0	209.8	208.5	205.5	212.7	213.1	209.3	208.7
	1982—83	216.0	215.0	216.9	225.0	228.2							

Source : Office of the Economic Adviser, Ministry of Industry.

TABLE 2.14
Jowar : Month-end Wholesale Prices

(Rs. per quintal)

State/ Centre	Variety	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Andhra Pradesh</i>														
Hyderabad	Yellow	1978—79	104.00	110.00	102.00	100.00	98.00	95.00	95.00	100.00	115.00	116.00	117.00	115.00
		1979—80	117.00	115.00	95.00	95.00	110.00	98.00	98.00	99.00	96.00	97.00	100.00	95.00
		1980—81	105.00	110.00	120.00	135.00	130.00	151.00	152.00	155.00	155.00	160.00	168.00	170.00
		1981—82	165.00	150.00	155.00	150.00	150.00	160.00	150.00	165.00	148.00	162.00	150.00	160.00
		1982—83	147.00	140.00	142.00	130.00	135.00	134.00						
<i>Gujarat</i>														
Surat	Yellow	1978—79	110.00	125.00	125.00	125.00	115.00	115.00	115.00	115.00	120.00	120.00	135.00	125.00
		1979—80	135.00	125.00	125.00	121.00	125.00	130.00	130.00	135.00	135.00	125.00	125.00	135.00
		1980—81	130.00	140.00	140.00	170.00	160.00	180.00	190.00	190.00	190.00	190.00	190.00	195.00
		1981—82	160.00	150.00	155.00	150.00	155.00	160.00	185.00	175.00	175.00	165.00	170.00	150.00
		1982—83	150.00	150.00	150.00	155.00	165.00	170.00						
<i>Haryana</i>														
Rohtak	Red	1978—79	N.A.	N.A.	N.A.	123.00	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
		1979—80	N.A.	N.A.	130.00	113.00	155.00	150.00	150.00	160.00	155.00	N.A.	N.A.	N.A.
		1980—81	N.A.	124.00	130.00	140.00	148.00	153.00	157.00	150.00	137.00	157.00	N.A.	N.A.
		1981—82	125.00	135.00	137.00	135.00	145.00	149.00	150.00	146.00	N.A.	N.A.	N.A.	N.A.
		1982—83	N.A.	N.A.	140.00	168.00	N.A.	200.00						
<i>Karnataka</i>														
Hubli	Hybrid	1978—79	68.00	62.00	62.00	62.00	61.00	62.00	68.00	76.00	100.00	80.00	81.00	70.00
		1979—80	72.00	88.00	80.00	78.00	85.00	86.00	95.00	98.00	106.00	102.00	108.00	100.00
		1980—81	115.00	115.00	112.00	115.00	115.00	165.00	155.00	152.00	155.00	155.00	150.00	150.00
		1981—82	112.00	122.00	118.00	100.00	105.00	105.00	98.00	90.00	95.00	105.00	100.00	91.00
		1982—83	105.00	105.00	100.00	100.00	95.00	104.00						
<i>Madhya Pradesh</i>														
Ujjain	Yellow	1978—79	85.00	89.50	87.00	94.20	90.00	92.00	105.00	110.20	119.20	121.50	124.00	125.00
		1979—80	106.70	111.00	106.50	107.50	104.00	102.20	122.70	130.00	140.20	135.00	132.00	115.00
		1980—81	112.00	117.00	127.50	139.20	148.00	156.00	158.70	160.50	170.00	172.00	170.00	160.00
		1981—82	118.00	125.00	128.00	119.20	117.70	118.50	120.00	124.50	146.00	N.A.	N.A.	N.A.
		1982—83	N.A.	N.A.	131.80	134.70	130.00	124.20						

TABLE—2.14 (Concluded)

(Rs. per quintal)

State Centre	Variety	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Maharashtra														
Nagpur	White	1978—79	90.00	107.00	100.00	105.00	105.00	105.00	100.00	110.00	115.00	115.00	125.00	115.00
		1979—80	105.00	125.00	115.00	115.00	115.00	115.00	125.00	135.00	135.00	140.00	130.00	100.00
		1980—81	130.00	125.00	140.00	156.00	150.00	180.00	180.00	170.00	175.00	180.00	170.00	150.00
		1981—82	145.00	145.00	150.00	155.00	145.00	145.00	150.00	145.00	165.00	160.00	150.00	145.00
		1982—83	120.00	125.00	135.00	140.00	135.00	140.00						
Rajasthan														
Ajmer	White	1978—79	100.00	108.00	110.00	107.00	110.00	107.00	110.00	125.00	127.50	122.00	120.00	130.00
		1979—80	140.00	133.00	131.00	145.00	146.00	145.00	148.00	165.00	145.00	148.00	135.00	130.00
		1980—81	N.A.	120.00	145.00	145.00	146.00	146.00	N.A.	N.A.	175.00	165.00	165.00	175.00
		1981—82	135.00	138.00	N.A.	N.A.	N.A.	N.A.	168.00	150.00	158.00	175.00	135.00	140.00
		1982—83	140.00	135.00	135.00	N.A.	N.A.	N.A.						
Tamil Nadu														
Coimbatore	White	1978—79	86.87	91.92	95.96	90.91	88.89	106.26	96.97	97.98	101.01	98.99	100.00	98.99
		1979—80	120.20	121.21	116.16	116.16	125.25	124.24	123.23	114.14	108.08	108.04	113.13	116.16
		1980—81	141.41	136.33	136.36	164.64	158.58	157.57	152.52	147.47	162.62	156.56	152.52	153.53
		1981—82	157.57	156.56	157.57	157.57	164.64	160.60	147.47	152.22	127.27	127.27	127.27	147.47
		1982—83	147.47	147.47	136.36	182.82	169.69	169.69						
Uttar Pradesh														
Jhansi	Mixed	1978—79	78.00	92.00	85.00	93.00	88.00	85.00	85.00	88.00	100.00	100.00	95.00	94.00
		1979—80	95.00	120.00	130.00	115.00	120.00	N.A.	N.A.	N.A.	130.00	125.00	108.00	N.A.
		1980—81	N.A.	115.00	136.00	130.00	120.00	119.00	N.A.	N.A.	160.00	140.00	N.A.	125.00
		1981—82	120.00	113.00	113.00	118.00	115.00	106.00	108.00	N.A.	120.00	119.00	130.00	N.A.
		1982—83	N.A.	140.00	166.00	N.A.	165.00	N.A.						

N.A.—Not Available.

TABLE 2.15

Bajra : Month-end Wholesale Prices

(Rs. per quintal)

State/Centre	Variety	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Andhra Pradesh														
Nellore	Hybrid	1978—79	80·00	78·00	80·00	72·00	78·00	80·00	80·00	77·00	94·00	87·00	96·00	82·00
		1979—80	115·00	108·00	110·00	115·00	114·00	112·00	110·00	108·00	108·00	100·00	95·00	104·00
		1980—81	115·00	114·00	121·00	140·00	130·00	140·00	145·00	140·00	156·00	142·00	125·00	105·00
		1981—82	115·00	120·00	110·00	112·00	108·00	105·00	103·00	105·00	105·00	110·00	105·00	118·00
		1982—83	125·00	124·00	133·00	140·00	145·00	160·00						
Gujarat														
Rajkot	Deshi	1978—79	105·00	114·50	105·00	108·75	109·25	110·00	112·50	107·50	120·00	115·00	111·25	116·25
		1979—80	132·00	140·00	140·00	147·50	153·00	164·00	143·75	138·00	145·00	136·25	130·50	141·25
		1980—81	150·75	150·75	157·50	162·50	158·25	167·50	172·50	176·75	186·75	181·75	166·25	154·25
		1981—82	168·50	156·25	162·50	163·75	174·25	178·75	169·25	160·75	165·00	148·00	147·50	144·50
		1982—83	165·00	154·25	137·50	157·75	171·50	186·25						
Haryana														
Rohtak	Coarse	1978—79	87·00	85·00	82·00	72·00	74·00	75·00	78·00	75·00	76·00	95·00	109·00	107·50
		1979—80	124·00	119·00	119·00	135·00	124·00	118·00	N.A.	N.A.	117·00	N.A.	110·00	110·00
		1980—81	117·50	115·00	112·00	117·00	115·00	123·00	134·00	135·00	140·00	143·00	155·00	122·00
		1981—82	133·00	133·00	139·00	142·00	156·00	148·00	147·0	136·00	N.A.	N.A.	120·00	123·00
		1982—83	125·00	N.A.	133·00	143·00	150·00	180·00						
Madhya Pradesh														
Morena	Deshi	1978—79	88·00	85·00	80·00	80·00	81·00	76·00	80·00	80·00	80·00	N.A.	N.A.	N.A.
		1979—80	N.A.	N.A.	135·00	140·00	132·00	N.A.	105·00	N.A.	115·00	N.A.	105·00	112·00
		1980—81	124·00	116·00	120·00	125·00	123·00	124·00	130·00	128·00	125·00	155·00	156·00	N.A.
		1981—82	N.A.	N.A.	160·00	160·00	166·00	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	131·00
		1982—83	134·00	142·00	175·00	170·00	170·00	N.A.						
Maharashtra														
Aurangabad	Green	1978—79	110·00	100·00	100·00	85·00	81·00	87·00	97·00	111·00	125·00	105·00	134·00	124·00
		1979—80	135·00	115·00	120·00	115·00	105·00	115·00	123·00	122·00	120·00	135·00	120·00	125·00
		1980—81	135·00	145·00	150·00	160·00	155·00	160·00	160·00	180·00	210·00	175·00	175·00	175·00
		1981—82	150·00	140·00	160·00	140·00	145·00	140·00	135·00	127·00	140·00	122·00	170·00	160·00
		1982—83	140·00	145·00	155·00	160·00	150·00	160·00						

TABLE 2.15 (Concluded)

(Rs. per quintal)

State/Centre	Variety	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Rajasthan</i>														
Jodhpur	Small	1978—79	90·00	90·00	100·00	90·00	95·00	90·00	95·00	92·00	105·00	115·00	120·00	115·00
		1979—80	118·00	130·00	130·00	135·00	135·00	140·00	140·00	140·00	150·00	140·00	135·00	130·00
		1980—81	130·00	135·00	140·00	145·00	135·00	150·00	160·00	170·00	182·00	190·00	185·00	150·00
		1981—82	145·00	155·00	150·00	150·00	150·00	155·00	160·00	160·00	160·00	160·00	165·00	150·00
		1982—83	145·00	150·00	145·00	145·00	150·00	175·00						
<i>Tamil Nadu</i>														
Erode	Local	1978—79	86·00	86·00	89·00	90·00	90·00	89·00	96·00	93·00	95·00	93·00	100·00	103·00
		1979—80	115·00	120·00	119·00	135·00	140·00	138·00	115·00	120·00	120·00	120·00	110·00	115·00
		1980—81	130·00	130·00	170·00	170·00	175·00	175·00	180·00	150·00	170·00	160·00	150·00	150·00
		1981—82	145·00	150·00	155·00	150·00	155·00	160·00	150·00	130·00	140·00	125·00	135·00	135·00
		1982—83	145·00	140·00	160·00	200·00	200·00	225·00						
<i>Uttar Pradesh</i>														
Agra	Local	1978—79	90·00	90·00	85·00	75·00	78·00	65·00	70·00	79·00	88·00	100·00	110·00	98·00
		1979—80	130·00	132·00	125·00	130·00	120·00	135·00	130·00	135·00	150·00	135·00	125·00	116·00
		1980—81	120·00	130·00	130·00	130·00	120·00	140·00	135·00	140·00	160·00	140·00	165·00	118·00
		1981—82	135·00	140·00	140·00	140·00	145·00	140·00	150·00	155·00	162·00	155·00	151·00	130·00
		1982—83	140·00	132·00	175·00	160·00	165·00	145·00						

N.A. : Not Available.

TABLE 2.16
Maize : Month-end Wholesale Prices

(Rs. per quintal)

State/Centre	Variety	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Andhra Pradesh</i>														
Hyderabad	Local	1978—79	100·00	95·00	95·00	90·00	95·00	90·00	95·00	105·00	110·00	108·00	115·00	110·00
		1979—80	110·00	115·00	107·00	102·00	108·00	115·00	135·00	145·00	155·00	160·00	118·00	110·00
		1980—81	120·00	117·00	117·00	125·00	133·00	140·00	143·00	145·00	165·00	170·00	160·00	160·00
		1981—82	135·00	155·00	140·00	150·00	150·00	135·00	140·00	160·00	145·00	165·00	140·00	150·00
		1982—83	135·00	135·00	140·00	135·00	N.A.	N.A.	..	..	..	..	..	..
<i>Bihar</i>														
Khagaria	Red	1978—79	115·00	117·00	120·00	127·00	127·00	100·00	95·00	102·00	102·00	110·00	112·00	112·00
		1979—80	131·00	135·00	140·00	140·00	102·00	111·00	110·00	123·00	102·00	110·00	112·00	112·00
		1980—81	122·00	130·00	165·00	170·00	116·00	120·00	122·00	120·00	125·00	150·00	150·00	150·00
		1981—82	165·00	165·00	170·00	185·00	165·00	133·00	140·00	145·00	165·00	167·00	155·00	165·00
		1982—83	190·00	190·00	190·00	190·00	197·00	162·00	..	..	..	..	..	..
<i>Gujarat</i>														
Dohad	Yellow	1978—79	108·00	108·00	105·00	104·00	112·00	114·00	110·00	126·00	133·00	132·00	115·00	118·00
		1979—80	132·00	122·00	126·00	137·00	135·00	145·00	152·00	164·00	160·00	152·00	110·00	126·00
		1980—81	131·00	138·00	140·00	151·00	145·00	162·00	166·00	178·00	182·00	182·00	164·00	145·00
		1981—82	143·00	153·00	166·00	165·00	150·00	154·00	160·00	165·00	180·00	175·00	160·00	165·00
		1982—83	162·00	152·00	165·00	176·00	178·00	177·00	..	..	..	..	..	..
<i>Karnataka</i>														
Gokak	Jawari	1978—79	N.A.	N.A.	N.A.	75·00	74·00	80·00	81·00	88·00	88·00	102·00	105·00	N.A.
		1979—80	92·00	88·00	86·00	85·00	105·00	105·00	118·00	135·00	148·00	142·00	112·00	98·00
		1980—81	109·00	108·00	114·00	114·00	120·00	136·00	134·00	148·00	160·00	159·00	138·00	115·00
		1981—82	113·00	122·00	N.A.	126·00	130·00	N.A.	N.A.	N.A.	132·00	135·00	138·00	130·00
		1982—83	125·00	128·00	128·00	132·00	145·00	147·00	..	..	..	..	..	..
<i>Madhya Pradesh</i>														
Jhauba	White}	1978—79	115·00	113·00	113·00	113·00	113·00	113·00	123·00	133·00	135·00	138·00	151·00	145·00
		1979—80	138·00	140·00	136·00	139·00	145·00	155·00	170·00	175·00	165·00	160·00	145·00	128·00
		1980—81	130·00	132·00	135·00	142·00	148·00	152·00	168·00	178·00	178·00	190·00	190·00	150·00
		1981—82	158·00	155·00	160·00	170·00	170·00	170·00	170·00	170·00	180·00	185·00	180·00	165·00
		1982—83	175·00	170·00	170·00	180·00	188·00	188·00	..	..	..	..	..	..

TABLE 2.16 (Concluded)
Maize : Month-end Wholesale Prices

													(Rs. per quintal)	
State/Centre	Variety	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Punjab														
Jullundur	Deshi	1978—79	105·00	100·00	101·00	100·00	103·00	106·00	112·00	117·00	120·00	130·00	127·00	110·00
		1979—80	113·00	117·00	117·00	117·00	124·00	122·00	140·00	140·00	140·00	137·00	120·00	124·00
		1980—81	139·00	135·00	137·00	140·00	142·00	150·00	155·00	158·00	155·00	162·00	138·00	143·00
		1981—82	141·00	143·00	150·00	159·00	172·00	175·00	184·00	180·00	185·00	176·00	180·00	184·00
		1982—83	175·00	160·00	154·00	164·00	174·00	170·00	..	..	..	..	..	..
Rajasthan														
Bhilwara	Yellow	1978—79	98·00	95·50	93·00	93·00	90·00	90·50	93·50	106·50	116·50	108·00	110·00	110·00
		1979—80	120·00	118·00	116·00	125·00	115·00	127·00	138·00	135·00	143·00	136·00	103·00	116·50
		1980—81	123·00	122·00	128·00	139·00	133·00	146·60	153·00	158·50	160·25	170·00	179·00	154·00
		1981—82	158·00	154·50	156·00	154·00	145·00	145·00	150·00	149·00	175·00	163·00	152·00	153·00
		1982—83	159·00	150·00	156·00	175·00	175·00	165·00	..	..	..	..	..	..
Uttar Pradesh														
Bakraich	White	1978—79	103·00	100·00	108·00	107·00	107·00	100·00	90·00	100·00	105·00	105·00	102·00	102·00
		1979—80	110·00	115·00	125·00	128·00	132·00	125·00	132·00	132·00	132·00	N.A.	112·00	104·00
		1980—81	130·00	135·00	158·00	150·00	130·00	132·00	144·00	144·00	165·00	135·00	130·00	124·00
		1981—82	132·00	142·00	143·00	128·00	135·00	132·00	135·00	155·00	165·00	160·00	175·00	139·00
		1982—83	160·00	160·00	210·00	210·00	215·00	175·00	..	..	..	..	..	..

TABLE 2.17
Ragi : Month-end Wholesale Prices

(Rs. per quintal)

State/Centre	Variety	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Andhra Pradesh</i>														
Madnapalli.	White	1978—79	85·00	85·00	85·00	85·00	86·00	85·00	85·00	92·00	95·00	90·00	85·00	85·00
		1979—80	95·00	105·00	105·00	110·00	113·00	112·00	110·00	110·00	120·00	100·00	128·00	126·00
		1980—81	138·00	140·00	165·00	185·00	165·00	165·00	168·00	160·00	190·00	200·00	178·00	150·00
		1981—82	140·00	135·00	160·00	168·00	165·00	155·00	160·00	150·00	150·00	155·00	140·00	135·00
		1982—83	150·00	150·00	155·00	170·00	170·00	177·00						
<i>Karnataka</i>														
Bangalore .	White	1978—79	120·00	118·00	115·00	100·00	100·00	100·00	100·00	104·00	100·00	100·00	95·00	95·00
		1979—80	105·00	108·00	100·00	100·00	100·00	100·00	105·00	115·00	112·00	120·00	160·00	160·00
		1980—81	170·00	175·00	175·00	175·00	165·00	170·00	175·00	190·00	205·00	205·00	178·00	185·00
		1981—82	185·00	180·00	160·00	150·00	140·00	145·00	145·00	140·00	150·00	155·00	160·00	170·00
		1982—83	165·00	160·00	165·00	160·00	165·00	180·00						
<i>Maharashtra</i>														
(Ghoti) Nasik	Red	1978—79	110·00	110·00	100·00	100·00	100·00	95·00	90·00	100·00	110·00	115·00	120·00	120·00
		1979—80	115·00	115·00	120·00	125·00	120·00	120·00	125·00	130·00	145·00	140·00	135·00	120·00
		1980—81	130·00	140·00	145·00	145·00	140·00	165·00	170·00	180·00	200·00	200·00	180·00	180·00
		1981—82	180·00	150·00	155·00	180·00	180·00	185·00	190·00	190·00	180·00	170·00	170·00	155·00
		1982—83	155·00	155·00	155·00	155·00	155·00	165·00						
<i>Tamil Nadu</i>														
Salem		1978—79	88·88	86·66	86·66	91·11	86·33	83·33	93·33	94·44	105·55	107·77	93·33	105·55
		1979—80	116·66	111·11	111·11	122·22	122·22	116·66	117·77	122·22	130·00	130·00	152·20	146·61
		1980—81	150·00	150·00	157·71	200·00	180·00	170·00	170·00	170·00	180·00	180·00	180·00	180·00
		1981—82	180·00	161·00	161·10	158·93	142·70	137·08	131·46	133·71	148·37	142·90	153·93	148·31
		1982—83	160·67	161·80	166·29	164·04	182·02	180·90						

TABLE 2.18

Jowar : Estimates of Cost of Cultivation/Production and related Data

Item	Karnataka			Madhya Pradesh
	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5
Cost of cultivation per hectare (Rs.)				
A 1	321.90	359.70	424.82	595.16
A 2	322.20	360.06	424.82	595.16
B	538.48	628.64	820.67	1080.86
C	636.02	714.18	943.35	1267.34
Yield per hectare (quintals)	7.03	7.38	8.65	
Value of the main product per hectare (Rs.)	609.01	800.92	1155.64	
Value of the By-Product per hectare (Rs.)	165.05	191.40	300.66	
Cost of Production per quintal (Rs.)				
A 1	22.31	22.80	14.35	53.50
A 2	22.35	22.85	14.35	53.50
B	53.12	59.25	60.11	95.34
C	67.00	70.84	74.29	113.51
Material and labour Inputs used per hectare				
Seed (Kgs.)	8.50	8.68	10.33	12.05
Fertilizer (kgs. in terms of nutrients)	4.60	1.37	4.82	5.80
Manure (Quintals)	11.83	3.35	25.67	1.99
Human labour (man hours)	361.02	306.70	334.43	471.21
Bullock labour (pair hours)	101.47	87.39	96.62	128.61

Notes: 1. The estimates are provisional.

2. Cost of production per quintal is obtained by dividing the cost of cultivation per hectare (net of the value of by-product) by the yield per hectare.

3. Cost A 1 pertains to the paid-out costs or expenses incurred in cash and kind on material inputs, hired human labour, bullock and machine labour (both hired and owned), etc. When rent paid for lease-in land is added to cost A1, one gets cost A2, i.e. paid-out costs of a tenant cultivator. Cost B is obtained with the addition to cost A2 of imputed rental value of owned land and interest on owned fixed capital, and Cost C with the further addition of the imputed value of the family labour.

4. The estimates for 1981-82 are based on sample selected following Crop Complex approach.

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

TABLE 2.19

Jowar : Break-up of Cost of Cultivation per hectare

Cost Items	Karnataka			Madhya Pradesh
	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5
Operational Cost	399.23	413.24	511.51	719.17
Human labour	202.32	156.87	210.61	324.39
Casual	89.87	65.38	79.79	91.44
Attached	14.91	5.95	8.14	26.47
Family	97.54	85.54	122.68	206.48
Bullock labour	127.86	216.39	186.44	299.10
Hired	12.20	8.39	0.79	28.69
Owned	115.66	208.00	185.65	270.41
Machine labour	0.47	..	..	8.19
Hired	0.47	..	..	8.11
Owned	..	..	..	0.08
Seed	15.08	20.22	27.65	25.10
Fertilizer & manure	43.24	9.37	67.20	46.85
Fertilizer	15.57	5.54	26.95	32.06
Manure	27.67	3.83	40.25	14.79
Insecticides	0.48	0.46	2.63	..
Irrigation charges	0.65	..	5.20	..
Interest on working capital	9.14	9.93	11.78	15.54
Fixed Cost	236.81	300.94	431.84	548.17
Rental value of owned land	150.33	193.14	286.04	351.02
Rent paid for leased-in land	0.30	0.37	..	..
Land revenue, cesses and taxes	3.92	4.96	5.22	5.97
Depreciation on implements and farm buildings	16.32	27.03	30.77	76.50
Interest on fixed capital	65.95	75.44	109.81	144.68
TOTAL COST	636.02	714.18	943.35	1267.34

APPENDIX I

Paddy and Rice : Systems of Procurement

State	1978-79	1979-80	1980-81	1981-82	1982-83
1	2	3	4	5	6
Andhra Pradesh	20 per cent levy on millers.	25 per cent levy on millers.	50 per cent levy on millers	50 per cent levy on millers. Also 50 per cent levy on movement of paddy outside state.	50 per cent levy on millers/dealers.
Assam	10 to 25 per cent levy in form of paddy on dealers and in the forms of rice and paddy on millers in the licensed capacity.	Graded levy ranging from 2.5 to 25 per cent on millers/dealers in the licensed capacity.	Graded levy ranging from 15 to 20 per cent on milling capacity.	50 per cent levy on millers/dealers	50 per cent levy on millers.
Bihar	Graded levy ranging from 25 to 40 per cent or a fixed quantity of rice based on milling capacity.	No levy	40 per cent levy on millers. 25 per cent levy on Wholesalers.	50 per cent levy or 2500 quintals on millers. 35 per cent levy or 1000 quintals on wholesalers.	50 per cent levy on millers.
Gujarat	No levy	No levy	No levy	50 per cent levy on millers/dealers.	No levy
Haryana	Bold group rice : 80 per cent. Slender group : 30 per cent.	Common & Fine: 80 per cent. Superfine : 30 per cent.	Common & Fine: 90 per cent. Superfine : 50 per cent.	Common & Fine : 90 per cent. Superfine : 75 per cent.	Common & Fine 90 per cent. Superfine : 75 per cent.
Kerala	Graded levy on Producers.	Graded levy on Producers.	Graded levy on Producers.	Graded levy on Producers.	Graded levy on Producers.
Karnataka	Grade levy on Producers.	Graded levy on Producers.	Graded levy on Producers & also 40% levy on millers.	50 per cent levy on millers/dealers and also 70 per cent levy on movement of paddy out side state.	Graded levy on producers and 50 per cent levy on millers/dealers
Madhya Pradesh	60 per cent levy on millers/dealers.	70 per cent levy on millers/dealers.	60 per cent levy on millers/dealers.	60 per cent levy on millers/dealers. Also 60 per cent levy on paddy movement outside the State.	60 per cent levy on millers/dealers.
Maharashtra	Price support purchases	Prices support purchases	Price support purchases.	Price support purchases	Price support ^t purchases.
Orissa *	Informal levy : wholesalers are required to deliver a fixed quantity of rice if interested to take a licence.	..	..	..	60 per cent levy on millers/dealers.
Punjab	Bold group: 80 per cent levy. Slender group; 50 per cent.	Common & Fine: 80 per cent. Superfine : 50 per cent.	Common (raw) : 90 per cent. Fine and Superfine : 75 per cent.	Common : 90 per cent. Fine & Superfine : 75 per cent.	Common : 90 per cent. Fine & Superfine : 75 per cent.
Rajasthan	No levy	No levy	No levy	50 per cent levy on millers/dealers.	50 per cent levy on millers/dealers.
Tamil Nadu	20 per cent levy on paddy. 10 per cent on rice moved from surplus districts. 20 per cent levy on rice & paddy moved from the State.	No levy	40 per cent levy on traders w.e.f. 1-1-1981.	50 per cent levy on traders.	50 per cent levy on millers/dealers.
Uttar Pradesh	60 per cent levy on millers/dealers (40 per cent in some districts).	10 per cent levy on millers/dealers.	60 per cent levy on millers/dealers (40 per cent in some districts)	60 per cent levy on millers/dealers (40 per cent. in some districts).	60 per cent levy on millers/dealers (40 per cent in some districts)
West Bengal	40 per cent levy on millers.	45 per cent levy on millers.	55 per cent levy on millers (reduced to 40 per cent from 15-5-1981).	60 per cent levy on millers/dealers (reduced to 40 per cent from 1-4-82)	40 per cent levy on millers (reduced to 30 percent from 18-12-1982).

TABLE 3.1

Pulses : Area, Production and Yield—All-India

Area : '000 hectares.
Production : '000 tonnes
Yield : Kgs. per hectare

Pulses	Triennium													Triennium
	ending 1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	ending 1981-82
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Gram														
Area	7,704	7,839	7,912	6,967	7,761	7,041	8,320	7,974	7,974	7,708	6,985	6,584	7,823	7,131
Production	5,275	5,199	5,081	4,537	4,099	4,015	5,879	7,974	7,974	7,708	6,985	6,584	7,823	7,131
Yield	685	663	642	651	528	570	707	680	678	745	481	657	584	573
Lur														
Area	2,621	2,655	2,346	2,424	2,646	2,529	2,671	2,566	2,626	2,635	2,731	2,842	2,982	2,852
Production	1,800	1,883	1,683	1,928	1,409	1,834	2,099	1,725	1,930	1,887	1,757	1,957	2,240	1,985
Yield	687	709	718	795	532	725	786	672	735	716	643	689	751	696
Moong														
Area	1,844	2,165	2,030	2,053	2,383	2,296	2,517	2,404	2,437	2,547	2,594	2,843	2,848	2,762
Production	511	729	617	540	797	652	798	797	870	876	698	979	1,073	917
Yield	277	337	304	263	335	284	317	331	357	344	269	344	377	332
Lrad														
Area	1,469	1,957	1,889	1,970	2,373	2,169	2,161	2,074	2,172	2,274	2,719	2,830	2,923	2,824
Production	464	588	560	593	745	671	757	693	747	726	756	959	1,066	927
Yield	316	300	296	302	314	309	350	334	344	320	278	339	365	328
Other Pulses														
Area	8,341	7,918	7,974	7,501	8,264	7,989	8,785	7,965	8,288	8,493	7,230	7,338	7,295	7,288
Production	3,354	3,419	3,153	2,309	2,958	2,842	3,506	2,722	3,016	2,955	2,004	2,404	2,405	2,271
Yield	402	431	395	307	357	355	399	341	363	348	277	328	330	312
Pulses														
Area	21,979	22,534	22,151	20,915	23,427	22,024	24,454	22,983	23,497	23,657	22,259	22,457	23,871	22,862
Production	11,404	11,818	11,094	9,907	10,008	10,014	13,039	11,361	11,973	12,183	8,572	10,627	11,351	10,183
Yield	518	524	501	474	427	455	533	494	510	515	385	473	476	445

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

TABLE 3-2
Tur (Arhar) : Area, Production And Yield

Area : '000 hectares
Production : '000 tonnes
Yield : Kgs. per hectare

State	Triennium ending												Triennium ending 1981-82
	1969-70	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Andhra Pradesh</i>													
Area	176	186	183	207	199	216	182	199	206	193	227	248	223
Production	86	42	38	39	46	44	24	30	45	49	44	60	51
Yield	489	227	207	187	231	203	132	150	217	252	194	244	229
<i>Bihar</i>													
Area	177	95	135	118	107	102	93	107	86	87	94	94	92
Production	149	59	127	76	88	72	62	69	56	77	91	91	86
Yield	842	625	544	644	825	705	667	649	648	881	971	971	935
<i>Gujarat</i>													
Area	92	86	86	96	94	102	105	111	132	153	188	228	190
Production	44	44	34	42	37	48	62	44	74	88	142	180	137
Yield	478	514	400	439	392	466	593	397	566	573	754	790	721
<i>Karnataka</i>													
Area	282	306	197	312	279	315	280	320	331	354	336	341	344
Production	118	163	65	157	146	185	126	223	218	235	125	194	185
Yield	418	532	331	504	525	586	452	695	664	664	370	570	538
<i>Madhya Pradesh</i>													
Area	497	505	529	516	514	517	509	488	475	512	523	534	523
Production	323	425	475	292	419	432	281	352	317	229	304	497	343
Yield	650	842	897	566	815	836	552	721	668	447	581	932	656
<i>Maharashtra</i>													
Area	618	482	509	627	592	642	648	660	676	663	706	706	692
Production	319	251	199	360	376	406	297	344	399	411	360	427	399
Yield	516	521	392	574	634	633	459	521	591	621	510	605	577
<i>Orissa</i>													
Area	36	50	51	54	56	58	42	58	70	82	100	86	86
Production	21	24	27	27	28	31	17	31	36	31	43	52	42
Yield	583	490	535	500	493	545	398	530	514	401	521	519	488

TABLE 3.2—(Concluded)

State	Area : '000 hectares Production : '000 tonnes Yield : Kgs. per hectare												
	Triennium ending 1969-70	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	Triennium ending 1981-82
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Punjab													
Area	1	2	2	5	3	6	4	4	8	17	18	12	16
Production	1	1	1	2	2	3	2	2	5	12	18	10	13
Yield	943	450	429	489	500	500	474	523	649	720	1,017	819	813
Rajasthan													
Area	23	34	36	31	23	48	41	33	45	27	35	31	31
Production	8	20	13	14	6	25	17	10	14	5	12	12	10
Yield	348	592	363	443	269	512	417	309	318	180	349	371	323
Tamil Nadu													
Area	53	100	94	95	68	81	84	81	73	69	66	125	87
Production	21	40	46	48	31	42	43	38	51	43	29	51	41
Yield	396	400	488	508	461	520	509	467	691	632	434	409	471
Utar Pradesh													
Area	608	468	564	527	540	529	531	521	501	542	523	516	527
Production	672	599	869	310	618	775	752	750	647	539	757	632	643
Yield	1,105	1,281	1,540	588	1,144	1,467	1,416	1,441	1,290	1,994	1,448	1,226	1,220
West Bengal													
Area	35	13	18	39	36	33	36	23	13	19	23	27	23
Production	26	4	23	32	29	29	36	21	8	25	17	21	21
Yield	743	312	1,243	825	811	861	992	899	661	1,358	757	783	913
All-India													
Area	2,621	2,346	2,424	2,646	2,529	2,671	2,566	2,626	2,635	2,731	2,842	2,982	2,852
Production	1,800	1,683	1,928	1,409	1,834	2,099	1,725	1,930	1,887	1,757	1,957	2,240	1,985
Yield	687	718	795	532	725	786	672	735	716	643	689	751	696

Source : Directorate of Economic & Statistics, Ministry of Agriculture.

TABLE 3.3
Moong : Season-wise Area

('000 hectares)

State/Season	1971 —72	1972 —73	1973 —74	1974 —75	1975 —76	1976 —77	1977 —78	1978 —79	1979 —80	1980 —81	1981 —82	
	1	2	3	4	5	6	7	8	9	10	11	12
<i>Andhra Pradesh</i>												
Kharif	382	375	394	404	369	410	410	430	395	477	462	
Rabi	80	91	102	90	94	86	75	89	84	95	95	
Total	462	466	496	494	483	496	485	519	479	572	557	
<i>Assam</i>												
Rabi	17	17	18	10	11	10	11	10	10	12	13	
<i>Bihar</i>												
Kharif	12	12	12	10	15	14	14	14	14	14	12	
Rabi/Summer	92	86	102	115	116	119	131	128	136	136	136	
Total	104	98	114	125	131	133	145	142	151	150	148	
<i>Karnataka</i>												
Kharif	81	63	82	97	107	84	103	122	126	226	150	
Rabi	9	8	13	15	13	13	9	11	11	9	11	
Total	90	71	95	112	120	97	112	133	137	135	161	
<i>Madhya Pradesh</i>												
Kharif	181	210	204	228	226	239	217	199	212	232	224	
Rabi	21	20	18	8	12	8	12	12	9	15	13	
Total	202	230	222	236	238	247	229	211	221	247	237	
<i>Maharashtra</i>												
Kharif	283	331	539	493	550	532	532	523	509	541	476	
Rabi	13	12	13	12	12	10	11	10	7	7	12	
Total	296	343	552	505	562	542	543	533	516	548	488	
<i>Orissa</i>												
Kharif	25	25	28	31	36	37	39	53	65	80	94	
Rabi	321	323	359	361	387	335	482	576	583	609	609	
Total	346	348	387	392	423	372	521	629	648	689	703	
<i>Rajasthan</i>												
Kharif	280	234	311	280	396	358	247	204	172	206	197	
<i>Tamil Nadu</i>												
Kharif	80	101	123	76	78	80	89	103	99	89	135	
<i>Uttar Pradesh</i>												
Kharif	12	12	15	16	16	17	17	16	16	18	20	
Rabi/Summer . . . . .	..	..	..	..	..	..	..	..	91	122	122
Total	12	12	15	16	16	17	17	16	107	140	142	
<i>West Bengal</i>												
Kharif	4	4	5	4	4	4	4	4	4	4	6	
Rabi	9	16	13	16	20	17	17	25	33	25	25	
Total	13	20	18	20	24	21	21	29	37	29	31	
<i>All-India</i>												
Kharif	1,468	1,480	1,744	1,667	1,849	1,803	1,686	1,683	1,628	1,812	1,810	
Rabi	562	573	639	629	668	601	751	864	966	1,031	1,038	
Total	2,030	2,053	2,383	2,296	2,517	2,494	2,437	2,547	2,594	2,843	2,848	

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 3-3—Continued.
Moong : Season-wise Production

('000 tonnes)

State/Season	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5	6	7	8	9	10	11	12
Andhra Pradesh											
Kharif	107	36	103	91	100	133	107	104	56	141	180
Rabi	26	29	35	36	39	35	30	46	30	42	43
Total	133	65	138	127	139	168	137	150	86	183	223
Assam											
Rabi	7	8	8	5	5	5	5	5	5	6	6
Bihar											
Kharif	6	6	5	4	5	5	7	5	5	6	5
Rabi/Summer	30	31	30	25	39	44	47	46	64	64	57
Total	36	37	35	29	44	49	54	51	69	70	62
Karnataka											
Kharif	19	9	46	39	43	22	53	33	25	32	56
Rabi	3	2	2	3	2	2	2	2	3	1	4
Total	22	11	48	42	45	24	55	35	28	33	60
Madhya Pradesh											
Kharif	53	56	52	60	71	68	65	51	32	55	61
Rabi	5	4	4	1	3	1	2	2	1	3	3
Total	58	60	56	61	74	69	67	53	33	58	64
Maharashtra											
Kharif	54	53	146	143	163	166	162	149	138	94	141
Rabi	3	2	3	3	3	2	2	2	1	1	2
Total	57	55	149	146	166	168	164	151	139	95	143
Orissa											
Kharif	12	14	14	14	16	15	20	28	20	37	42
Rabi	147	171	184	147	177	147	251	303	207	336	310
Total	159	185	198	161	193	162	271	331	227	373	352
Rajasthan											
Kharif	73	47	96	27	85	94	60	31	11	52	26
Tamil Nadu											
Kharif	24	35	41	26	16	30	34	37	33	22	37
Uttar Pradesh											
Kharif	3	3	4	7	5	5	6	3	2	4	5
Rabi/Summer . . . . .	..	..	..	..	..	..	..	..	34	50	50
Total	3	3	4	7	5	5	6	3	36	54	55
West Bengal											
Kharif	2	2	2	2	2	2	2	2	2	2	4
Rabi	3	4	4	4	3	3	9	13	18	13	13
Total	5	6	6	6	5	5	11	15	20	15	17
All-India											
Kharif	393	289	527	427	526	557	521	455	335	463	585
Rabi	224	251	270	225	272	240	349	421	363	516	488
Total	617	540	797	652	798	797	870	876	698	979	1,073

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 3-3—Continued.

(Kgs. per hectare)

Moong : Season-wise Yield

State/Season	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5	6	7	8	9	10	11	12
<i>Andhra Pradesh</i>											
Kharif	279	96	305	225	257	324	260	242	142	295	391
Rabi	330	322	347	402	414	411	395	519	358	449	454
Total	288	139	279	257	288	339	281	289	180	320	402
<i>Assam</i>											
Rabi	408	441	471	465	413	450	445	47	455	463	500
<i>Bihar</i>											
Kharif	500	455	441	376	363	380	471	400	340	420	410
Rabi/Summer	326	356	297	217	333	365	359	362	470	470	418
Total	346	368	312	230	336	367	369	365	457	466	417
<i>Karnataka</i>											
Kharif	234	139	561	402	402	258	508	268	203	251	377
Rabi	275	214	278	185	265	172	217	214	236	110	324
Total	238	147	506	369	370	247	484	263	205	242	373
<i>Madhya Pradesh</i>											
Kharif	293	266	256	265	314	282	298	255	152	239	272
Rabi	248	218	205	175	226	157	200	190	144	199	198
Total	288	261	251	262	310	278	293	252	152	237	268
<i>Maharashtra</i>											
Kharif	190	159	270	291	297	312	304	285	271	174	297
Rabi	194	172	206	254	273	208	149	144	206	147	164
Total	190	159	269	290	296	310	301	282	270	173	294
<i>Orissa</i>											
Kharif	484	548	489	452	447	396	504	528	302	455	450
Rabi	458	529	512	407	457	439	520	526	355	551	509
Total	459	530	509	411	456	435	519	526	350	540	501
<i>Rajasthan</i>											
Kharif	260	202	308	96	216	262	243	152	61	250	130
<i>Tamil Nadu</i>											
Kharif	299	347	333	342	208	363	378	361	330	247	276
<i>Uttar Pradesh</i>											
Kharif	212	258	248	407	296	298	329	188	141	207	234
Rabi/Summer . . . . .	..	..	..	..	..	..	..	..	374	410	410
Total	212	258	248	407	296	298	329	188	338	384	385
<i>West Bengal</i>											
Kharif	524	514	478	486	538	512	500	526	523	575	632
Rabi	311	270	278	258	147	157	545	528	538	496	496
Total	385	300	330	300	212	225	537	527	536	507	521
<i>All-India</i>											
Kharif	268	195	303	256	284	309	309	271	206	256	323
Rabi	399	438	423	358	407	399	465	486	376	500	470
Total	304	263	335	284	317	331	357	344	269	344	377

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 3-4
Moong : Area, Production and Yield

State	Triennium ending 1969-70	Area : '000 hectares Production : '000 tonnes Yield : Kgs. per hectare											Triennium ending 1981-82
		1971 -72	1972 -73	1973 -74	1974 -75	1975 -76	1976 -77	1977 -78	1978 -79	1979 -80	1980 -81	1981 -82	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Andhra Pradesh													
Area	462	462	466	496	494	483	496	485	519	479	572	557	536
Production	64	133	65	138	127	139	168	137	150	86	183	223	164
Yield	139	288	139	279	257	288	339	281	289	180	320	402	306
Bihar													
Area	..	104	98	114	125	131	133	145	142	151	150	148	150
Production	..	36	37	35	29	44	49	54	51	69	70	62	67
Yield	..	346	368	312	230	336	367	369	365	457	466	417	448
Karnataka													
Area	81	90	71	95	112	120	97	112	133	137	135	161	144
Production	18	22	11	48	42	45	24	55	35	28	33	60	40
Yield	225	238	147	506	369	370	247	484	263	205	242	373	276
Madhya Pradesh													
Area	216	202	230	222	236	238	247	229	211	221	247	237	234
Production	58	58	60	56	61	74	69	67	53	33	58	64	51
Yield	270	288	261	251	262	310	278	293	252	152	237	268	218
Maharashtra													
Area	433	296	343	552	505	562	542	543	533	516	548	488	517
Production	127	57	55	149	146	166	168	164	151	139	95	143	125
Yield	293	190	159	269	290	296	310	301	282	270	173	294	242
Orissa													
Area	328	346	348	387	392	423	372	521	629	648	689	703	680
Production	157	159	185	198	161	193	162	271	331	227	373	352	317
Yield	479	459	530	509	411	456	435	519	526	350	540	501	466
Rajasthan													
Area	249	280	234	311	280	396	358	247	204	172	206	197	191
Production	66	73	47	96	27	85	94	60	31	11	52	26	29
Yield	265	260	202	308	96	216	262	243	152	61	250	130	152
Tamil Nadu													
Area	..	80	101	123	76	78	80	89	103	99	89	135	107
Production	..	24	35	41	26	16	30	34	37	33	22	37	30
Yield	..	299	347	333	342	208	363	378	361	330	247	276	280
Uttar Pradesh													
Area	..	12	12	15	16	16	17	17	16	107	140	142	130
Production	..	3	3	4	7	5	5	6	3	36	54	55	48
Yield	..	212	258	248	407	296	298	329	188	338	384	385	369
All-India													
Area	1,800	2,030	2,053	2,383	2,296	2,517	2,404	2,437	2,547	2,594	2,843	2,848	2,762
Production	..	617	540	797	652	798	797	870	876	698	979	1,073	917
Yield	..	304	263	335	284	317	331	357	344	269	344	377	332

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

TABLE 3-5

Urad : Season-wise Area

('000 hectares)

State/Season	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5	6	7	8	9	10	11	12
<i>Andhra Pradesh</i>											
Kharif . . .	54	49	54	49	42	39	43	48	55	51	44
Rabi . . .	132	116	163	144	146	137	112	179	189	181	172
Total . . .	186	165	217	193	188	176	155	227	244	232	216
<i>Assam</i>											
Rabi . . .	51	50	50	49	46	49	48	48	46	47	49
<i>Bihar</i>											
Kharif . . .	94	101	106	115	110	100	110	101	113	120	118
<i>Karnataka</i>											
Kharif . . .	58	35	37	39	41	37	40	47	54	53	52
Rabi . . .	5	9	8	6	6	6	7	7	6	3	7
Total . . *	63	44	45	45	47	43	47	54	60	55	59
<i>Madhya Pradesh</i>											
Kharif . . .	484	516	580	577	561	569	600	520	658	657	640
Rabi . . .	141	135	120	44	72	54	68	66	47	94	69
Total . . .	625	651	700	621	633	623	866	686	705	751	709
<i>Maharashtra</i>											
Kharif . . .	294	300	484	474	475	458	465	453	429	456	411
Rabi . . .	44	26	38	37	34	37	38	37	24	19	33
Total . . .	338	326	522	511	599	495	503	490	453	475	444
<i>Orissa</i>											
Kharif . . .	..	..	..	..	..	..	..	..	83	102	126
Rabi . . .	..	..	..	..	..	..	..	..	299	308	308
Total . . .	..	..	..	..	..	..	..	..	382	410	434
<i>Rajasthan</i>											
Kharif . . .	53	61	99	109	102	91	108	113	128	161	155
<i>Tamil Nadu</i>											
Kharif . . .	97	148	158	96	93	120	147	167	172	168	275
<i>Uttar Pradesh</i>											
Kharif . . .	146	151	164	151	146	134	148	174	204	200	251
<i>West Bengal</i>											
Kharif . . .	32	38	46	54	47	59	24	23	33	31	38
Rabi . . .	101	129	157	138	149	106	151	102	108	103	103
Total . . .	133	167	203	192	196	165	175	125	141	134	141
<i>All-India</i>											
Kharif . . .	1,415	1,505	1,836	1,750	1,704	1,681	1,744	1,831	1,996	2,071	2,178
Rabi . . .	474	465	537	419	457	393	428	443	723	759	745
Total . . .	1,889	1,970	2,373	2,169	2,161	2,074	2,172	2,274	2,719	2,830	2,923

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 3.5—(Continued)
Urad : Season-wise Production

'000 tonnes

State/Season	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5	6	7	8	9	10	11	12
Andhra Pradesh											
Kharif	11	9	14	10	7	7	12	8	13	8	10
Rabi	66	58	71	76	77	58	39	90	79	99	76
Total	77	67	85	86	84	65	51	98	92	107	86
Assam											
Rabi	16	30	24	18	15	17	15	18	15	18	20
Bihar											
Kharif	21	37	55	38	42	38	44	49	40	56	59
Karnataka											
Kharif	12	1	20	9	10	8	12	13	13	16	25
Rabi	1	2	1	1	1	1	1	1	1	1	2
Total	13	3	21	10	11	9	13	14	14	17	27
Madhya Pradesh											
Kharif	129	116	131	132	169	143	169	146	113	158	179
Rabi	33	29	24	10	15	9	12	10	6	17	12
Total	162	139	155	142	184	152	181	156	119	175	191
Maharashtra											
Kharif	66	63	138	145	164	163	165	148	140	102	143
Rabi	10	5	8	10	11	10	8	9	7	4	7
Total	76	68	146	155	175	173	173	157	147	106	150
Orissa											
Kharif . . . . .	..	..	..	..	..	..	..	..	24	51	70
Rabi . . . . .	..	..	..	..	..	..	..	..	102	166	154
Total . . . . .	..	..	..	..	..	..	..	..	126	217	224
Rajasthan											
Kharif	23	24	24	20	52	41	52	36	16	64	54
Tamil Nadu											
Kharif . . . . .	..	..	..	26	21	42	62	65	56	45	78
Uttar Pradesh											
Kharif . . . . .	..	..	12	58	43	39	55	43	33	55	78
West Bengal											
Kharif	19	23	27	32	30	37	17	14	20	21	25
Rabi	38	57	53	51	64	50	60	37	49	44	44
Total	57	80	80	83	94	97	77	51	69	65	69
All-India											
Kharif . . . . .	..	412	564	505	572	546	610	559	494	608	748
Rabi . . . . .	..	181	181	166	175	147	137	167	262	351	318
Total . . . . .	..	593	745	671	757	693	747	726	756	959	1,066

Source: Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 3.5—(Concluded)

Urad : Season-wise Yield

(Kgs. per hectare)

State/Season	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5	6	7	8	9	10	11	12
<i>Andhra Pradesh</i>											
Kharif	204	184	262	208	162	170	271	167	237	151	223
Rabi	500	500	434	530	526	421	346	499	416	546	441
Total	414	382	392	446	447	368	329	429	376	460	396
<i>Assam</i>											
Rabi	314	600	480	367	326	339	309	367	338	378	408
<i>Bihar</i>											
Kharif	223	366	519	329	377	380	400	488	350	470	500
<i>Karnataka</i>											
Kharif	202	32	546	244	239	202	304	278	343	310	475
Rabi	240	200	132	182	246	179	164	157	138	200	364
Total	205	65	467	227	234	199	285	263	233	304	462
<i>Madhya Pradesh</i>											
Kharif	267	213	225	229	301	251	282	235	171	241	280
Rabi	234	215	200	221	214	171	182	159	130	184	169
Total	259	214	220	228	291	244	272	227	168	234	269
<i>Maharashtra</i>											
Kharif	224	210	284	306	344	355	354	327	326	223	347
Rabi	227	192	205	257	323	270	199	234	300	209	219
Total	225	209	280	303	343	349	342	320	325	223	337
<i>Orissa</i>											
Kharif . . . . .	..	..	..	..	..	..	..	..	282	497	560
Rabi . . . . .	..	..	..	..	..	..	..	..	343	539	499
Total . . . . .	..	..	..	..	..	..	..	..	330	529	516
<i>Rajasthan</i>											
Kharif	434	393	242	183	510	445	479	318	126	395	348
<i>Tamil Nadu</i>											
Kharif	309	331	329	271	226	345	421	391	327	265	285
<i>Uttar Pradesh</i>											
Kharif	199	377	378	384	295	288	371	246	163	275	310
<i>West Bengal</i>											
Kharif	594	605	587	604	617	628	688	617	613	661	646
Rabi	376	442	337	370	430	472	396	367	451	432	432
Total	428	479	394	435	474	527	436	419	489	485	490
<i>All-India</i>											
Kharif	264	271	307	289	336	325	350	305	248	294	344
Rabi	386	389	339	396	405	373	319	377	363	463	427
Total	296	302	314	309	350	334	344	320	278	339	365

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

TABLE 3-6

Urad : Area, Production and Yield

Area : '000 hectares
 Production : '000 tonnes
 Yield : Kgs. per hectare

State	Trien- nium ending 1969-70	1971 -72	1972 -73	1973 -74	1974 -75	1975 -76	1976 -77	1977 -78	1978 -79	1979 -80	1980 -81	1981 -82	Trien- nium ending 1981-82
1	2	3	4	5	6	6	8	9	10	11	12	13	14
Andhra Pradesh													
Area	181	186	165	217	193	188	177	155	227	244	232	216	231
Production	35	77	67	85	86	84	65	51	98	92	107	86	95
Yield	193	414	382	392	446	447	368	329	429	376	460	396	411
Bihar													
Area	114	94	101	106	115	110	100	110	101	113	120	118	117
Production	48	21	37	55	38	42	38	44	49	40	56	59	52
Yield	421	223	366	519	329	377	380	400	488	350	470	500	444
Madhya Pradesh													
Area	582	525	651	700	621	633	623	668	686	705	751	709	722
Production	139	162	139	155	142	184	152	181	156	119	175	191	162
Yield	239	260	213	225	228	291	244	272	227	168	234	269	224
Maharashtra													
Area	401	338	326	522	511	509	495	503	490	453	475	444	457
Production	127	76	68	146	155	175	173	173	157	147	106	150	134
Yield	317	225	209	280	303	343	349	342	320	325	223	337	293
Orissa													
Area . . . . .	..	..	..	..	..	..	..	..	..	382	410	434	409
Production . . . . .	..	..	..	..	..	..	..	..	..	126	217	224	189
Yield . . . . .	..	..	..	..	..	..	..	..	..	330	529	516	462
Rajasthan													
Area	51	53	61	99	109	102	91	108	113	128	161	155	148
Production	19	23	24	24	20	52	41	52	36	16	64	54	45
Yield	373	434	393	242	183	510	445	479	318	126	395	348	304
Tamil Nadu													
Area	43	97	148	158	96	93	120	147	167	172	168	275	205
Production	11	30	49	52	26	21	42	62	65	56	45	78	60
Yield	256	309	331	329	271	226	345	421	391	327	265	285	293
Uttar Pradesh													
Area	143	146	151	164	151	146	134	148	174	204	200	251	218
Production	55	29	57	62	58	43	39	55	43	33	55	78	55
Yield	385	199	377	378	384	295	288	371	246	163	275	310	252
West Bengal													
Area	168	133	167	203	192	196	165	175	125	141	134	141	139
Production	72	57	80	80	85	94	87	77	51	69	65	69	68
Yield	429	428	479	394	435	474	527	436	419	489	485	490	489
All-India													
Area	1,469	1,889	1,970	2,373	2,169	2,161	2,074	2,172	2,274	2,719	2,830	2,923	2,824
Production	464	560	593	745	671	757	693	747	726	756	959	1,066	927
Yield	316	296	302	314	309	350	334	344	320	278	339	365	328

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

TABLE 3-7
Index Numbers of Wholesale Prices

(Base : 1970—71 = 100)

Commodity	Year	January	February	March	April	May	June	July	August	September	October	November	December	Average
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Pulses Group</i>	1977	164.7	173.8	173.1	167.6	187.0	189.0	196.8	199.1	214.4	220.0	235.8	245.1	197.2
	1978	238.9	239.6	248.6	235.1	228.1	238.8	238.9	248.5	265.6	270.8	268.5	255.5	247.9
	1979	246.6	234.6	236.4	237.4	235.6	237.7	242.2	250.6	253.1	248.3	246.1	245.8	242.8
	1980	244.1	243.6	245.3	245.2	264.5	277.3	300.2	301.7	315.4	355.0	392.2	360.0	295.4
	1981	362.8	364.2	340.3	334.3	337.7	340.3	347.7	368.1	365.4	361.1	345.4	326.1	349.4
	1982	325.4	312.6	300.1	298.8	291.3	300.0	305.2	323.5	317.0	308.6	304.2	301.2	307.3
	1983	293.9	291.8	292.1										
<i>Tur (Arhar)</i>	1977	173.6	195.6	198.4	181.2	191.6	191.2	210.3	211.8	220.1	232.2	261.2	250.8	209.6
	1978	246.2	256.4	265.6	241.7	249.2	264.4	265.9	269.3	287.5	295.4	290.4	267.1	266.6
	1979	245.8	230.2	231.8	240.7	241.8	243.8	245.8	250.8	251.8	249.4	247.6	241.1	243.4
	1980	234.0	227.7	229.3	223.2	222.2	221.6	236.5	241.9	246.2	273.8	284.8	263.4	242.0
	1981	270.7	269.2	257.3	252.3	262.9	265.4	273.9	292.2	293.4	288.9	285.1	278.0	274.1
	1982	301.6	299.2	289.9	287.1	272.5	281.4	293.5	323.2	327.0	329.8	321.6	330.6	304.8
	1983	335.1	335.8	335.6										
<i>Moong</i>	1977	173.5	184.6	189.1	195.6	215.0	227.7	201.6	192.2	191.6	196.6	205.3	228.2	200.1
	1978	230.0	233.8	240.6	245.8	258.7	279.5	260.6	253.9	259.2	275.7	281.2	285.9	258.7
	1979	293.6	299.4	298.3	312.5	320.4	320.3	307.6	308.8	300.2	299.0	305.5	295.2	305.1
	1980	304.3	298.5	313.4	319.1	329.9	340.0	332.4	307.7	283.3	297.6	321.4	311.3	313.2
	1981	324.7	343.4	349.8	360.1	362.0	362.1	346.8	347.4	337.4	322.3	316.4	301.8	339.5
	1982	299.6	307.2	313.3	321.9	317.4	317.0	313.9	319.9	302.4	290.3	282.0	279.6	305.4
	1983	275.4	276.9	293.0										
<i>Urad</i>	1977	194.0	201.8	203.0	202.1	211.4	213.4	222.0	230.2	234.6	216.2	209.8	212.8	212.6
	1978	213.6	207.0	209.4	218.2	232.1	243.9	247.4	244.8	242.8	245.1	242.4	232.1	231.6
	1979	232.6	226.4	226.7	242.6	248.8	254.0	254.2	255.0	255.0	246.5	228.1	227.0	241.4
	1980	223.7	220.8	223.8	226.8	234.2	235.3	235.1	237.3	234.2	242.0	254.8	244.3	234.4
	1981	246.1	245.7	236.0	234.3	236.3	237.0	246.6	258.9	255.8	258.3	245.2	230.7	244.2
	1982	233.0	235.6	229.9	236.0	244.3	261.8	277.2	311.4	318.3	283.7	267.0	262.3	263.4
	1983	264.5	274.5	278.5										

Source : Office of the Economic Adviser, Ministry of Industry.

TABLE 3-8
Tur (Whole) : Month-end Wholesale Prices

(Rs. per quintal)

State/Centre	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Andhra Pradesh													
Vijayawada	1978-79	340-00	..	250-00	235-00	280-00	280-00	305-00	300-00	330-00	300-00	310-00	300-00
	1979-80	280-00	280-00	260-00	275-00	270-00	280-00	290-00	300-00	315-00	290-00	310-00	365-00
	1980-81	..	280-00	310-00	290-00	325-00	316-00	320-00	350-00	355-00	355-00	360-00	365-00
	1981-82	350-00	350-00	316-00	300-00	300-00	305-00	320-00	355-00	410-00	415-00	..	..
	1982-83	..	320-00	315-00	330-00	..	..	..	..	..	..	..	..
Karnataka													
Gulbarga	1978-79	305-00	266-00	275-00	275-00	300-00	285-00	330-00	308-00	335-00	322-00	305-00	298-00
	1979-80	305-00	305-00	290-00	285-00	280-00	280-00	280-00	275-00	300-00	..	..	..
	1980-81	..	..	320-00	330-00	335-00	340-00	365-00	350-00	392-00	370-00	373-00	398-00
	1981-82	400-00	415-00	330-00	350-00	350-00	325-00	355-00	373-00	425-00	421-00	440-00	456-00
	1982-83	475-00	370-00	350-00	380-00	430-00	..	..	..	..	..	..	..
Madhya Pradesh													
Raipur	1978-79	305-00	321-00	247-00	252-00	252-00	265-00	260-00	258-00	270-00	270-00	265-00	267-00
	1979-80	245-00	250-00	240-00	270-00	265-00	250-00	260-00	272-00	260-00	290-00	235-00	330-00
	1980-81	270-00	..	285-00	275-00	250-00	275-00	275-00	265-00	307-00	315-00	285-00	285-00
	1981-82	275-00	335-00	315-00	290-00	270-00	275-00	275-00	..	..	..	..	400-00
	1982-83	410-00	365-00	355-00	355-00	325-00	..	..	..	..	..	..	..
Maharashtra													
Aurangabad	1978-79	290-00	268-00	262-00	250-00	275-00	263-00	295-00	255-00	295-00	300-00	300-00	310-00
	1979-80	341-00	262-00	230-00	240-00	205-00	210-00	205-00	195-00	231-00	230-00	270-00	250-00
	1980-81	305-00	280-00	310-00	315-00	325-00	310-00	320-00	335-00	360-00	350-00	365-00	320-00
	1981-82	320-00	375-00	325-00	305-00	310-00	335-00	295-00	355-00	405-00	385-00	390-00	375-00
	1982-83	410-00	360-00	370-00	380-00	370-00	..	..	..	..	..	..	..
Tamil Nadu													
Madras	1978-79	351-51	301-01	301-01	270-70	260-10	..	..	..	366-66	341-41	346-46	341-41
	1979-80	326-26	356-56	326-26	336-36	301-01	311-11	290-90	290-90	346-46	331-31	381-81	422-22
	1980-81	401-00	371-71	361-61	371-71	361-61	351-51	351-51	356-56	391-91	412-12	417-17	417-17
	1981-82	432-32	422-22	391-91	381-81	381-81	341-41	351-51	452-52	452-52	482-82	452-52	442-42
	1982-83	472-72	452-52	451-51	417-17	446-46	..	..	..	..	..	..	..

TABLE 3.8—(Concluded)

(Rs. per quintal)

State/Centre	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Uttar Pradesh</i>													
Kanpur	1978-79	308.00	300.00	290.00	255.00	280.00	250.00	255.00	250.00	260.00	275.00	280.00	290.00
	1979-80	270.00	270.00	240.00	270.00	248.00	265.00	240.00	245.00	268.00	265.00	270.00	320.00
	1980-81	310.00	300.00	300.00	285.00	288.00	266.00	270.00	270.00	310.00	315.00	325.00	324.00
	1981-82	315.00	315.00	330.00	358.00	360.00	345.00	288.00	280.00	295.00	322.00	330.00	338.00
	1982-83	350.00	360.00	370.00	375.00	375.00	..	..	..	..	..	..	..
Haridwar	1978-79	320.00	315.00	258.00	225.00	230.00	245.00	250.00	250.00	250.00	255.00	250.00	245.00
	1979-80	235.00	235.00	225.00	230.00	236.00	240.00	240.00	238.00	250.00	245.00	270.00	330.00
	1980-81	280.00	260.00	280.00	245.00	230.00	240.00	255.00	265.00	265.00	300.00	300.00	280.00
	1981-82	270.00	255.00	280.00	290.00	300.00	305.00	395.00	295.00	295.00	300.00	320.00	295.00
	1982-83	270.00	320.00	345.00	355.00	362.00	..	..	..	..	..	..	..
<i>Delhi</i>													
Delhi	1978-79	310.00	290.00	250.00	260.00	275.00	250.00	260.00	245.00	260.00	275.00	280.00	270.00
	1979-80	246.00	260.00	240.00	250.00	230.00	250.00	250.00	260.00	275.00	265.00	300.00	340.00
	1980-81	290.00	275.00	300.00	290.00	280.00	295.00	290.00	300.00	325.00	325.00	325.00	315.00
	1981-82	300.00	320.00	320.00	330.00	330.00	290.00	295.00	290.00	350.00	365.00	360.00	390.00
	1982-83	335.00	345.00	360.00	350.00	380.00	..	..	..	..	..	..	..

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 3.9
Moong (Whole) : Month-end Wholesale Prices

State/Centre	Year	(Rs. per quintal)											
		November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Andhra Pradesh													
Vijayawada	1978-79	270.00	..	255.00	280.00	320.00	335.00	340.00	345.00	350.00	290.00	332.00	320.00
	1979-80	320.00	335.00	340.00	335.00	330.00	345.00	360.00	370.00	365.00	262.00	270.00	335.00
	1980-81	..	330.00	340.00	345.00	345.00	365.00	360.00	380.00	395.00	330.00	305.00	305.00
	1981-82	290.00	308.00	295.00	300.00	300.00	296.00	305.00	310.00	320.00	300.00	..	..
	1982-83	..	265.00	230.00	250.00	..	..	..	..	..	..	..	..
Assam													
Gauhati	1978-79	355.00	350.00	400.00	400.00	425.00	440.00	450.00	430.00	450.00	460.00	400.00	400.00
	1979-80	385.00	400.00	400.00	435.00	460.00	450.00	510.00	500.00	500.00	450.00	440.00	450.00
	1980-81	450.00	440.00	425.00	490.00	490.00	500.00	525.00	570.00	525.00	525.00	475.00	450.00
	1981-82	450.00	445.00	440.00	420.00	430.00	450.00	450.00	450.00	450.00	449.00	425.00	375.00
	1982-83	375.00	350.00	360.00	370.00	420.00	..	..	..	..	..	..	..
Bihar													
Patna	1978-79	..	320.00	315.00	325.00	340.00	335.00	340.00	280.00	..	310.00	350.00	320.00
	1979-80	335.00	353.00	375.00	378.00	390.00	405.00	350.00	315.00	310.00	300.00	350.00	425.00
	1980-81	425.00	376.00	425.00	420.00	420.00	400.00	425.00	430.00	360.00	375.00	360.00	370.00
	1981-82	340.00	325.00	335.00	340.00	350.00	350.00	340.00	290.00	300.00	325.00	..	..
	1982-83	310.00	320.00	320.00	320.00	320.00	..	..	..	..	..	..	..
Gujarat													
Patan	1978-79	315.00	330.00	330.00	320.00	355.00	375.00	425.00	310.00	330.00	350.00	310.00	350.00
	1979-80	370.00	350.00	325.00	330.00	330.00	350.00	390.00	425.00	385.00	310.00	350.00	440.00
	1980-81	375.00	..	400.00	410.00	410.00	460.00	450.00	500.00	375.00	425.00	338.50	291.50
	1981-82	350.00	290.00	271.00	260.00	280.00	240.00	360.00	390.00	360.00	310.00	280.00	330.00
	1982-83	325.00	280.00	275.00	305.00	300.00	..	..	..	..	..	..	..
Karnataka													
Gulbarga	1978-79	298.00	269.00	273.00	255.00	271.00	275.00	270.00	303.00	261.00	281.00	295.00	291.00
	1979-80	295.00	288.00	260.00	285.00	280.00	270.00	271.00	260.00	300.00	..	..	..
	1980-81	..	..	350.00	370.00	375.00	350.00	..	327.00	325.00	289.00	310.00	290.00
	1981-82	281.00	265.00	252.00	265.00	266.00	248.00	280.00	320.00	250.00	260.00	260.00	240.00
	1982-83	260.00	233.00	250.00	250.00	260.00	..	..	..	..	..	..	..
Madhya Pradesh													
Sagar	1978-79	390.00	360.00	365.00	355.00	..	..	..	..	340.00	340.00	350.00	345.00
	1979-80	355.00	335.00	345.00	365.00	370.00	370.00	400.00	380.00	370.00	335.00	365.00	440.00
	1980-81	420.00	375.00	380.00	430.00	433.00	480.00	465.00	475.00	..	360.00	365.00	365.00
	1981-82	..	325.00	335.00	340.00	..	..	335.00	340.00	290.00	290.00	..	..
	1982-83	..	232.00	240.00	242.00	..	..	..	..	..	..	..	..

<i>Raipur</i>	1978-79		330.00	314.00	291.00	317.00	317.00	333.00	410.00	375.00	353.00	350.00	321.00
	1979-80	350.00	315.00	300.00	305.00	320.00	325.00	336.00	340.00	350.00	340.00	351.00	400.00
	1980-81	385.00	415.00	405.00	330.00	337.00	363.00	360.00		395.00	360.00	335.00	315.00
	1981-82				342.00	340.00	295.00	291.00					
	1982-83	..	315.00	300.00	280.00	305.00							
<i>Maharashtra Aurangabad</i>	1978-79	300.00	325.00	340.00	340.00	340.00	340.00	340.00	355.00	340.00	298.00	314.00	313.00
	1979-80	320.00	340.00	340.00	340.00	325.00	368.00	390.00	410.00	410.00	250.00	295.00	350.00
	1980-81	311.00	280.00	340.00	370.00	420.00			450.00	325.00	320.00	325.00	320.00
	1981-82	310.00	245.00	350.00	370.00			340.00	320.00	325.00	275.00	275.00	..
	1982-83	250.00	250.00	260.00	300.00	345.00							
<i>Orissa Angul</i>	1978-79	300.00	320.00	325.00	325.00	340.00	355.00	350.00	350.00	..	370.00	378.00	382.00
	1979-80	366.00	350.00	342.00	360.00	360.00	350.00	382.00	388.00	405.00	412.00	410.00	398.00
	1980-81	420.00	420.00	415.00	400.00	380.00	380.00	420.00	435.00	435.00	460.00	460.00	440.00
	1981-82	400.00	400.00	400.00	402.00	425.00	415.00	403.00	405.00	408.00	412.00	415.00	420.00
	1982-83	390.00	390.00	390.00	..	..					
<i>Tamil Nadu Madras</i>	1978-79	290.00	331.31	306.06	301.01	342.42	..	..	..	351.51	336.36	336.36	340.40
	1979-80	331.31	356.56	351.51	365.64	361.61	326.26	326.26	346.45	346.45	326.26	351.51	381.81
	1980-81	391.91	391.91	412.12	417.17	402.02	402.02	401.01	401.01	401.01	432.32	351.51	351.51
	1981-82	347.47	347.47	381.81	361.61	351.51	280.80	250.50	321.21	336.36	341.41	321.21	301.01
	1982-83	290.90	290.90	290.90	301.01	311.11							
<i>Uttar Pradesh Hapur</i>	1978-79	265.00	320.00	315.00	300.00	330.00	335.00	345.00	318.00	305.00	310.00	335.00	300.00
	1979-80	300.00	275.00	275.00	320.00	325.00	325.00	325.00	350.00	345.00	280.00	330.00	340.00
	1980-81	320.00	300.00	320.00	315.00	310.00	310.00	330.00	385.00	380.00	380.00	350.00	320.00
	1981-82	320.00	315.00	315.00	320.00	330.00	335.00	335.00	320.00	305.00	325.00	320.00	305.00
	1982-83	295.00	270.00	320.00	311.00	328.00							
<i>West Bengal Calcutta</i>	1978-79	310.00	340.00	340.00	350.00	380.00	395.00	400.00	325.00	355.00	355.00	355.00	355.00
	1979-80	350.00	360.00	365.00	390.00	390.00	390.00	380.00	370.00	350.00	330.00	355.00	405.00
	1980-81	405.00	395.00	380.00	400.00	400.00	370.00	380.00	360.00	395.00	395.00	400.00	380.00
	1981-82	..	350.00	360.00	360.00	355.00	365.00	360.00	350.00	360.00	345.00	325.00	325.00
	1982-83	310.00	300.00	290.00	300.00	330.00							
<i>Delhi Delhi</i>	1978-79	360.00	370.00	370.00	345.00	405.00	405.00	400.00	325.00	370.00	350.00	350.00	335.00
	1979-80	335.00	360.00	360.00	400.00	390.00	430.00	400.00	390.00	350.00	360.00	360.00	400.00
	1980-81	375.00	370.00	430.00	440.00	460.00	460.00	450.00	470.00	390.00	365.00	380.00	335.00
	1981-82	325.00	355.00	355.00	350.00	380.00	360.00	375.00	317.00	335.00	340.00	320.00	295.00
	1982-83	310.00	305.00	325.00	350.00	380.00							

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

TABLE 3.10
Urad (Whole) : Month-end Wholesale Prices

State/Centre	Year	(Rs. per quintal)											
		November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Andhra Pradesh													
Vijayawada	1978-79	315.00	..	270.00	254.00	262.00	268.00	260.00	260.00	285.00	280.00	275.00	260.00
	1979-80	270.00	280.00	270.00	270.00	260.00	255.00	260.00	270.00	270.00	265.00	250.00	330.00
	1980-81	..	290.00	310.00	260.00	275.00	260.00	225.00	285.00	295.00	300.00	290.00	280.00
	1981-82	275.00	290.00	285.00	300.00	275.00	270.00	345.00	370.00	525.00	500.00	..	..
	1982-83	..	370.00	370.00	340.00								
Madhya Pradesh													
Sagar	1978-79	280.00	275.00	285.00	285.00	278.00	280.00	285.00	280.00	290.00	291.00	290.00	252.00
	1979-80	242.00	260.00	280.00	270.00	285.00	270.00	300.00	270.00	280.00	240.00	310.00	265.00
	1980-81	270.00	255.00	260.00	235.00	272.00	280.00	230.00	240.00	..	..	..	..
	1981-82	200.00	215.00	225.00	218.00	..	..	215.00	240.00	270.00	280.00	..	..
	1982-83	..	270.00	290.00	235.00								
Maharashtra													
Bombay	1978-79	292.50	282.50	282.50	277.50	285.00	287.50	302.00	297.50	290.00	285.00	295.00	262.50
	1979-80	262.50	282.50	242.50	262.50	272.50	272.50	267.50	272.50	257.50	252.50	272.50	317.50
	1980-81	292.50	285.00	292.50	317.50	302.50	307.50	282.50	285.00	317.50	305.00	297.50	293.50
	1981-82	297.50	237.50	272.50	255.00	270.00	290.00	295.00	272.50	305.00	422.50	290.00	315.00
	1982-83	325.00	312.50	315.00	320.00	345.00							
Uttar Pradesh													
Kanpur	1978-79	295.00	260.00	265.00	280.00	318.00	325.00	345.00	310.00	325.00	330.00	270.00	285.00
	1979-80	265.00	275.00	280.00	300.00	270.00	270.00	300.00	295.00	295.00	283.00	294.00	325.00
	1980-81	335.00	300.00	310.00	310.00	320.00	318.00	315.00	320.00	290.00	275.00	285.00	265.00
	1981-82	265.00	265.00	275.00	285.00	280.00	258.00	275.00	296.00	320.00	335.00	350.00	320.00
	1982-83	325.00	326.00	335.00	345.00	350.00							
Tamil Nadu													
Madras	1978-79	301.01	301.01	295.95	260.60	295.00	306.06	..	..	321.21	306.06	290.90	270.00
	1979-80	280.00	285.85	275.75	297.85	280.80	270.70	250.50	280.80	..	276.76	301.01	331.31
	1980-81	321.21	316.16	316.16	301.01	301.01	301.01	301.01	395.95	331.31	341.41	301.01	301.01
	1981-82	255.55	250.50	301.01	291.91	290.90	295.95	306.06	412.12	452.52	553.53	422.22	351.51
	1982-83	351.51	351.51	361.61	371.71	401.01							
Delhi													
Delhi	1978-79	315.00	320.00	320.00	290.00	315.00	285.00	300.00	295.00	320.00	310.00	280.00	270.00
	1979-80	260.00	270.00	255.00	290.00	260.00	290.00	275.00	290.00	270.00	270.00	290.00	300.00
	1980-81	285.00	285.00	280.00	280.00	305.00	300.00	300.00	325.00	325.00	330.00	330.00	275.00
	1981-82	260.00	260.00	260.00	260.00	275.00	290.00	350.00	350.00	420.00	430.00	400.00	300.00
	1982-83	330.00	340.00	360.00	360.00	400.00							

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

TABLE 11

Turb: Range of Fluctuations in Wholesale Prices at Selected Centres

(Rs. per quintal)

State, Centre	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	(November—October)					(November—March)
1	2	3	4	5	6	7
<i>Andhra Pradesh</i>						
Vijayawada						
Trough	280.00	235.00	260.00	280.00	300.00	315.00
Peak	360.00	340.00	365.00	365.00	415.00	330.00
Difference	80.00	105.00	105.00	85.00	115.00	15.00
<i>Karnataka</i>						
Gulbarga						
Trough	290.00	266.00	275.00	320.00	330.00	350.00
Peak	391.00	335.00	305.00	398.00	456.00	475.00
Difference	101.00	69.00	30.00	78.00	126.00	125.00
<i>Madhya Pradesh</i>						
Raipur						
Trough	225.00	247.00	240.00	250.00	270.00	325.00
Peak	315.00	321.00	330.00	315.00	400.00	410.00
Difference	90.00	74.00	90.00	65.00	130.00	85.00
<i>Maharashtra</i>						
Aurangabad						
Trough	240.00	250.00	195.00	280.00	295.00	360.00
Peak	338.00	310.00	341.00	365.00	405.00	410.00
Difference	98.00	60.00	146.00	85.00	110.00	50.00
<i>Tamil Nadu</i>						
Madras						
Trough	270.70	260.10	290.90	351.51	341.41	417.17
Peak	376.76	366.66	422.22	417.17	482.82	472.72
Difference	106.06	106.56	131.32	65.66	141.41	55.55
<i>Uttar Pradesh</i>						
Kanpur						
Trough	245.00	250.00	240.00	266.00	280.00	350.00
Peak	338.00	308.00	320.00	325.00	360.00	375.00
Difference	93.00	58.00	80.00	59.00	80.00	25.00
Delhi						
Trough	260.00	245.00	230.00	275.00	290.00	335.00
Peak	335.00	310.00	340.00	325.00	390.00	380.00
Difference	75.00	65.00	110.00	50.00	100.00	45.00

TABLE 3.12

Moong : Range of Fluctuations in Wholesale Prices at Selected Centres

(Rs. per quintal)

State/Centre	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	(November—October)					(November—March)
1	2	3	4	5	6	7
Andhra Pradesh						
Vijayawada						
Trough	225.00	255.00	262.00	305.00	290.00	230.00
Peak	325.00	350.00	370.00	395.00	320.00	265.00
Difference	100.00	95.00	108.00	90.00	30.00	35.00
Assam						
Gauhati						
Trough	270.00	300.00	385.00	425.00	375.00	350.00
Peak	390.00	460.00	510.00	570.00	450.00	420.00
Difference	120.00	110.00	125.00	145.00	75.00	70.00
Bihar						
Patna						
Trough . . . . .	..	280.00	300.00	360.00	290.00	310.00
Peak . . . . .	..	350.00	425.00	430.00	350.00	320.00
Difference . . . . .	..	70.00	125.00	70.00	60.00	10.00
Gujarat						
Patan						
Trough	260.00	310.00	310.00	291.50	240.00	275.00
Peak	420.00	425.00	440.00	500.00	390.00	325.00
Difference	160.00	115.00	130.00	208.50	150.00	50.00
Karnataka						
Gulbarga						
Trough	195.00	255.00	260.00	290.00	240.00	233.00
Peak	295.00	303.00	300.00	375.00	320.00	260.00
Difference	100.00	48.00	40.00	85.00	80.00	27.00
Madhya Pradesh						
Sagar						
Trough	190.00	340.00	335.00	360.00	290.00	232.00
Peak	380.00	390.00	440.00	480.00	340.00	242.00
Difference	190.00	50.00	105.00	120.00	50.00	10.00
Maharashtra						
Aurangabad						
Trough	220.00	298.00	250.00	280.00	275.00	250.00
Peak	320.00	355.00	410.00	450.00	370.00	345.00
Difference	100.00	57.00	160.00	170.00	95.00	95.00
Orissa						
Angul						
Trough	260.00	300.00	342.00	380.00	400.00	390.00
Peak	330.00	382.00	412.00	460.00	420.00	390.00
Difference	70.00	82.00	70.00	80.00	20.00	..
Tamil Nadu						
Madras						
Trough	240.00	290.00	326.26	351.51	260.60	290.90
Peak	331.31	351.51	381.81	432.32	381.81	311.11
Difference	91.31	61.51	55.55	80.81	121.21	20.21

(Continued)

TABLE 3-12—(Concluded.)

(Rs. per quintal)

State/Centre	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	(November—October)					(November—March)
1	2	3	4	5	6	7
<i>Uttar Pradesh</i>						
<i>Hapur</i>						
Trough	210.00	265.00	275.00	300.00	305.00	270.00
Peak	320.00	345.00	350.00	385.00	325.00	328.00
Difference	110.00	80.00	75.00	85.00	20.00	58.00
<i>West Bengal</i>						
<i>Calcutta</i>						
Trough	260.00	310.00	330.00	360.00	325.00	290.00
Peak	395.00	400.00	405.00	405.00	365.00	330.00
Difference	135.00	90.00	75.00	45.00	40.00	40.00
<i>Delhi</i>						
Trough	280.00	325.00	335.00	335.00	295.00	305.00
Peak	365.00	405.00	430.00	470.00	380.00	380.00
Difference	85.00	80.00	95.00	135.00	85.00	75.00

TABLE 3-13

Urad : Range of Fluctuations in Wholesale Prices at Selected Centres

(Rs. per quintal)

State/Centre	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	(November—October)					(November—March)
1	2	3	4	5	6	7
<i>Andhra Pradesh</i>						
Vijayawada						
Trough	265.00	254.00	255.00	225.00	270.00	340.00
Peak	310.00	315.00	330.00	310.00	525.00	370.00
Difference	45.00	61.00	75.00	85.00	255.00	30.00
<i>Madhya Pradesh</i>						
Sagar						
Trough	223.00	252.00	240.00	230.00	215.00	235.00
Peak	280.00	291.00	310.00	280.00	280.00	290.00
Difference	57.00	39.00	70.00	50.00	65.00	55.00
<i>Maharashtra</i>						
Bombay						
Trough	242.50	262.50	242.50	282.50	255.00	312.50
Peak	302.50	397.50	317.50	317.50	422.50	345.00
Difference	60.00	135.00	75.00	35.00	167.50	32.50
<i>Uttar Pradesh</i>						
Kaupur						
Trough	220.00	260.00	265.00	265.00	258.00	325.00
Peak	292.00	345.00	325.00	335.00	350.00	350.00
Difference	72.00	85.00	60.00	70.00	92.00	25.00
<i>Tamil Nadu</i>						
Madras						
Trough	265.00	260.60	250.50	301.01	250.50	351.51
Peak	331.31	321.21	331.31	395.95	553.53	401.01
Difference	66.31	60.61	80.81	94.94	303.03	49.50
<i>Delhi</i>						
Trough	275.00	270.00	255.00	275.00	260.00	330.00
Peak	335.00	320.00	300.00	330.00	430.00	400.00
Difference	60.00	50.00	45.00	55.00	170.00	70.00

TABLE 4-1

All-India : Area, Production and Yield of Five Major Oilseeds

Commodity	Average Triennium 67-68 to 69-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	Average Triennium 79-80 to 81-82
														15
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Groundnut</i>														
Area	7,255	7,326	7,510	6,990	7,024	7,063	7,222	7,043	7,028	7,433	7,165	6,801	7,448	7,138
Production	5,164	6,111	6,181	4,092	5,932	5,111	6,754	5,264	6,087	6,208	5,768	5,005	7,239	6,004
Yield	712	834	823	585	845	724	935	747	866	835	805	736	972	841
<i>Castor Seed</i>														
Area	412	439	453	426	546	590	375	496	380	447	441	498	558	499
Production	120	136	154	145	229	210	143	179	217	229	227	204	302	244
Yield	291	310	340	341	419	356	381	361	572	513	516	411	542	489
<i>Sesamum</i>														
Area	2,462	2,433	2,392	2,288	2,386	2,234	2,170	2,279	2,384	2,389	2,377	2,472	2,521	2,457
Production	438	562	449	385	485	392	479	422	520	514	348	446	524	439
Yield	178	231	188	168	203	176	221	185	218	215	146	180	208	179
<i>Rapeseed & Mustard</i>														
Area	3,095	3,323	3,614	3,319	3,457	3,680	3,339	3,128	3,584	3,544	3,471	4,113	4,337	3,974
Production	1,493	1,976	1,433	1,808	1,704	2,252	1,936	1,550	1,650	1,860	1,428	2,002	2,363	1,931
Yield	482	594	396	545	493	612	580	496	460	525	411	487	545	486
<i>Linseed</i>														
Area	1,759	1,897	2,064	1,726	2,038	2,071	2,119	1,888	2,010	2,092	1,614	1,673	1,784	1,690
Production	412	474	529	428	504	564	598	419	527	535	269	423	474	389
Yield	234	250	256	248	247	272	282	222	262	256	167	253	266	230
<i>Total Five Major Oilseeds</i>														
Area	14,983	15,418	16,033	14,749	15,451	15,638	15,225	14,834	15,386	15,905	15,067	15,557	16,648	15,758
Production	7,627	9,259	8,746	6,858	8,854	8,529	9,911	7,834	9,001	9,346	8,040	8,080	10,902	9,007
Yield	509	601	546	465	573	545	651	528	585	588	534	519	655	572

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 4.2

Groundnut : Area, Production and Yield

Area : '000 hectares
 Production : '000 tonnes
 Yield : Kgs. per hectare

State	Triennium ending 1969-70	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	Triennium ending 1981-82
1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Andhra Pradesh</i>													
Area	1,311	1,524	1,415	1,388	1,471	1,331	1,051	1,099	1,277	1,346	1,304	1,434	1,361
Production	997	1,164	998	1,376	1,412	1,119	583	1,023	1,160	1,119	861	1,407	1,129
Yield	761	764	705	991	964	841	555	931	909	831	660	981	830
<i>Gujarat</i>													
Area	1,852	1,778	1,741	1,582	1,493	1,641	1,887	1,971	2,047	2,040	2,125	2,192	2,119
Production	1,123	1,541	350	1,241	465	2,035	1,898	1,763	1,823	1,813	1,645	2,145	1,868
Yield	606	866	201	785	311	1,240	1,006	895	890	889	774	979	882
<i>Karnataka</i>													
Area	806	985	720	925	895	961	838	863	886	879	765	779	808
Production	496	745	434	642	664	630	367	571	610	636	444	618	564
Yield	615	756	603	694	742	655	437	661	689	724	581	793	698
<i>Madhya Pradesh</i>													
Area	437	490	436	439	448	492	521	437	410	320	296	300	305
Production	284	294	292	211	299	407	326	248	220	169	180	222	190
Yield	650	601	670	479	666	828	628	566	537	528	608	740	623
<i>Maharashtra</i>													
Area	968	751	763	675	755	839	925	848	814	747	833	824	801
Production	669	468	197	495	548	663	605	578	505	568	611	694	624
Yield	691	623	258	734	727	790	654	682	621	760	733	842	779

13-32 Agri. P. Com./ND/85	<i>Orissa</i>															
	Area	69	95	86	94	103	109	105	119	144	175	172	218	188		
	Production	83	133	120	138	142	135	119	145	192	123	231	298	217		
	Yield	1,203	1,403	1,395	1,476	1,371	1,236	1,133	1,215	1,333	703	1,343	1,367	1,154		
	<i>Punjab</i>															
	Area	217	174	160	155	164	168	164	156	129	91	83	92	89		
	Production	208	183	153	150	141	176	150	154	114	81	104	90	92		
	Yield	959	1,055	954	970	860	1,045	915	927	883	890	1,253	978	1,034		
	<i>Tamil Nadu</i>															
	Area	925	1,117	1,061	1,136	977	935	890	926	983	998	789	1,145	977		
	Production	877	1,273	1,103	1,212	862	1,053	785	1,150	1,129	1,061	680	1,369	1,037		
	Yield	948	1,140	1,039	1,067	883	1,127	882	1,242	1,148	1,063	862	1,196	1,061		
	<i>Uttar Pradesh</i>															
	Area	375	328	315	353	415	425	389	329	325	246	191	271	236		
	Production	275	183	287	286	351	313	233	244	181	96	134	259	163		
Yield	733	559	910	812	847	737	599	742	557	390	702	956	691			
<i>All-India</i>																
Area	7,255	7,510	6,990	7,024	7,063	7,222	7,043	7,028	7,433	7,165	6,801	7,448	7,138			
Production	5,164	6,181	4,092	5,932	5,111	6,754	5,264	6,087	6,208	5,768	5,005	7,239	6,004			
Yield	712	823	585	845	724	935	747	866	835	805	736	972	841			

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

TABLE 4.3

Groundnut : Area, Production and yield (Season-wise)

Area : '000 hectares
 Production : '000 tonnes
 Yield : Kgs. per hectare

State / Crop	1973-74			1974-75			1975-76			1976-77			
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield	
	1	2	3	4	5	6	7	8	9	10	11	12	13
Uttar Pradesh													
Kharif	1,151	1,081	939	1,238	1,098	887	1,162	875	753	929	409	441	
Rabi/Summer	237	295	1,247	233	315	354	169	244	1,449	122	174	1,421	
Total	1,388	1,376	991	1,471	1,413	961	1,331	1,119	841	1,051	583	555	
Kerala													
Kharif	1,582	1,241	785	1,493	465	311	1,641	2,035	1,240	1,887	1,898	1,006	
Andhra Pradesh													
Kharif	858	564	657	845	587	695	893	528	591	801	316	395	
Rabi/Summer	78	67	1,168	50	77	1,542	68	102	1,509	37	51	1,364	
Total	925	642	694	895	664	742	961	630	655	838	367	437	
Madhya Pradesh													
Kharif	439	211	479	448	299	666	492	407	828	521	326	626	
Maharashtra													
Kharif	675	495	734	755	548	727	839	663	790	925	605	654	
Gujarat													
Kharif	76	101	1,334	77	97	1,267	78	83	1,067	77	75	974	
Rabi/Summer	18	37	2,073	26	45	1,670	31	52	1,661	28	44	1,566	
Total	94	138	1,476	103	142	1,371	109	136	1,236	105	119	1,133	
Punjab													
Kharif	155	150	970	164	141	860	168	176	1,045	164	150	915	
Tamil Nadu													
Kharif	637	554	866	745	565	759	741	794	1,074	697	615	882	
Rabi/Summer	499	661	1,323	232	297	1,277	194	258	1,330	193	170	882	
Total	1,136	1,212	1,067	977	862	883	935	1,053	1,127	890	785	882	
Uttar Pradesh													
Kharif	353	286	812	415	351	847	425	313	737	389	233	599	
All-India													
Kharif	6,203	4,861	784	6,521	3,377	671	6,760	6,098	902	6,662	4,825	724	
Rabi/Summer	821	1,071	1,305	542	734	1,354	462	657	1,422	381	439	1,153	
Total	7,024	5,932	845	7,063	5,111	724	7,222	6,755	935	7,043	5,264	747	

TABLE 4.3 (Concluded)
Groundnut : Area, Production and yield (Season-wise)

Area : '000 hectares
Production : '000 tonnes
Yield : Kgs. per hectare

State/Crop	1977-78			1978-79			1979-80			1980-81			1981-82		
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Andhra Pradesh															
Kharif															
Rabi/Summer	916	776	848	1,059	827	781	1,102	811	736	1,081	536	496	1,177	1,060	901
Total	184	247	1,345	218	333	781	2,441	308	126	223	325	1,450	257	347	1,352
Gujarat	1,099	1,023	931	1,277	1,100	909	1,246	1,119	831	1,304	861	660	1,434	1,407	981
Kharif															
Rabi/Summer	1,954	1,723	882	2,022	1,786	883	1,971	1,668	846	1,975	1,381	699	2,041	1,882	922
Total	17	40	2,365	26	37	1,447	69	145	2,100	150	264	1,754	151	263	1,754
Karnataka	1,971	1,763	895	2,048	1,823	890	2,040	1,813	889	2,125	1,645	774	2,192	2,145	979
Kharif															
Rabi/Summer	797	470	589	814	506	622	801	524	654	681	336	494	694	492	709
Total	66	101	1,536	72	104	1,445	78	112	1,440	84	108	1,282	85	126	1,479
Madhya Pradesh	863	571	661	886	610	689	879	636	724	765	444	581	779	618	793
Kharif															
Rabi/Summer	437	248	566	410	220	537	320	169	528	290	100	600	300	222	739
Total	848	578	682	814	505	621	723	538	744	712	441	619	300	222	739
Maharashtra	848	578	682	814	505	621	723	538	744	712	441	619	300	222	739
Kharif															
Rabi/Summer	848	578	682	814	505	621	723	538	744	712	441	619	300	222	739
Total	73	75	1,025	77	87	1,141	92	55	598	82	93	1,138	108	120	1,105
Tamil Nadu	119	145	1,215	144	192	1,333	175	123	703	172	231	1,340	218	298	1,364
Kharif															
Rabi/Summer	156	154	987	129	114	884	91	81	890	83	104	1,253	92	90	978
Total	644	725	1,126	690	734	1,063	724	683	931	566	394	696	824	887	1,077
Uttar Pradesh	282	425	1,507	293	395	1,345	264	378	1,429	223	286	696	824	887	1,077
Kharif	926	1,150	1,242	983	1,129	1,148	998	1,061	1,063	789	680	862	1,145	1,369	1,518
Rabi/Summer	329	244	742	325	181	557	246	96	390	191	134	701	271	259	958
Total	6,434	5,204	809	6,737	5,207	773	6,402	4,727	738	5,508	3,714	629	6,376	5,582	876
All-India	594	883	1,485	696	1,001	1,437	763	1,041	1,364	893	1,291	1,444	1,072	1,657	1,546
Kharif	7,028	6,087	866	7,433	6,208	835	7,165	5,768	805	6,801	5,005	736	7,448	7,239	972
Rabi/Summer															
Total															

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 4-4

Oilseeds & Edible Oils : Index Numbers of Wholesale Prices

(Base : 1970-71 = 100)

Month	Oilseeds						Edible Oils					
	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	1	2	3	4	5	6	7	8	9	10	11	12	13
November	176.0	159.0	186.2	240.4	249.4	262.0	167.8	159.2	200.2	229.8	256.9	267.5
December	182.6	156.3	192.7	236.1	244.2	260.6	171.4	158.3	203.9	231.1	251.5	268.6
January	172.6	154.1	191.2	251.2	249.2	260.0	166.6	155.6	196.7	245.1	255.9	272.2
February	163.6	148.0	203.3	256.1	241.4	256.4	160.5	149.2	203.9	256.2	253.7	269.8
March	160.9	151.0	205.8	240.4	231.0	246.2	160.4	157.0	209.7	248.5	252.2	266.2
April	157.7	156.2	205.4	244.2	224.4		160.0	165.6	208.2	252.0	246.8	
May	162.0	155.8	212.1	249.9	229.8		161.0	164.9	213.8	254.0	246.5	
June	165.8	163.9	215.8	260.6	244.8		161.8	171.6	212.8	260.9	257.2	
July	164.9	182.0	230.5	270.7	250.0		160.1	185.9	225.4	271.8	263.8	
August	163.3	196.2	225.8	277.5	257.5		159.3	201.7	227.7	280.9	263.8	
September	165.5	202.0	225.9	269.5	252.0		161.0	212.6	219.6	274.4	265.0	
October	159.7	192.8	228.4	257.8	255.9		161.0	203.7	221.6	266.7	264.5	
Average	166.2	168.1	210.4	254.6	244.0		162.6	173.8	211.9	256.0	256.5	

Source : Office of the Economic Adviser, Ministry of Industry.

TABLE 4-5

Groundnut and Groundnut Oil : Index Numbers of Wholesale Prices

(Base : 1970-71 = 100)

Month	Groundnut						Groundnut Oil					
	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
	1	2	3	4	5	6	7	8	9	10	11	12	13
November	150.3	136.7	171.6	226.9	254.7	278.8	149.4	140.4	199.0	217.0	276.3	282.5
December	158.7	137.2	182.9	228.0	253.3	269.5	159.5	140.6	200.5	221.6	268.1	283.4
January	156.6	142.6	183.1	256.3	264.3	271.0	152.5	142.0	190.1	245.9	276.6	287.9
February	148.4	141.7	201.4	265.8	253.1	269.3	148.9	138.7	196.8	267.1	273.5	284.8
March	154.1	144.0	207.6	254.7	245.1	260.0	151.6	147.5	205.2	261.6	266.7	283.3
April	151.7	148.0	204.6	261.0	241.2		149.4	152.5	202.3	268.8	259.7	
May	153.0	150.8	204.8	267.6	245.3		149.6	152.9	203.5	273.5	260.5	
June	154.4	163.3	203.8	281.8	264.4		147.4	166.2	203.3	284.8	272.3	
July	151.9	186.8	220.2	298.0	269.4		143.2	189.4	218.4	305.0	284.8	
August	151.8	210.8	209.3	303.9	271.6		143.2	211.8	221.9	315.0	287.8	
September	150.7	217.8	209.0	292.8	263.4		144.1	229.6	209.4	311.1	279.0	
October	136.8	196.1	213.9	270.5	271.1		143.4	214.8	211.1	295.3	278.2	
Average	151.5	165.0	201.2	268.1	258.0		148.5	168.9	205.1	272.2	273.7	

Source : Office of the Economic Adviser, Ministry of Industry.

TABLE 4.6

Groundnut : Month-end Wholesale Prices

(Rs. per quintal)

State/Centre	Variety	Year	November	December	January	February	March	April	May	June	July	August	September	October	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
<i>Andhra Pradesh</i>															
Nandyal	With Shell	1978-79	175.00	..	225.00	235.00	..	..	..	..	..	..	325.00	262.50
		1979-80	280.00	280.00	267.00	312.50	282.50	292.50	292.00	320.00	350.00	320.00	275.00	305.00	
		1980-81	315.00	355.00	385.00	400.00	380.00	410.00	415.00	432.50	450.00	412.00	412.50	325.00	
		1981-82	385.00	387.50	412.50	387.50	365.00	350.00	360.00	420.00	420.00	400.00	387.50	390.00	
		1982-83	385.00	400.00	400.00	360.00	380.00								
<i>Gujarat</i>															
Rajkot	With Shell	1978-79	224.35	237.50	223.75	221.85	232.50	243.00	245.00	299.00	325.00	366.25	362.50	292.50	
		1979-80	279.50	273.75	275.00	303.25	327.75	307.50	303.75	302.75	302.50	279.00	270.00	282.50	
		1980-81	296.25	366.25	378.00	423.25	417.00	421.25	422.50	439.00	460.00	443.25	430.00	400.00	
		1981-82	374.75	393.00	409.25	390.00	397.00	348.75	358.75	371.25	381.25	391.25	361.25	414.50	
		1982-83	406.25	382.50	368.75	391.50	381.25								
<i>Karnataka</i>															
Bangalore	Dry Shell	1978-79	110.00	190.00	160.00	250.00	252.00	260.00	240.00	240.00	270.00	300.00	340.00	..	
		1979-80	260.00	280.00	285.00	350.00	350.00	300.00	360.00	325.00	325.00	350.00	325.00	380.00	
		1980-81	350.00	380.00	400.00	425.00	..	..	..	..	..	..	..	..
		1981-82	200.00	220.00	450.00	425.00	..	..	..	..	..	..	..	..
		1982-83									
<i>Madhya Pradesh</i>															
Khandwa	With She	1978-79	240.00	290.00	280.00	270.00	250.00	270.00	270.00	270.00	270.00	275.00	250.00	200.00	260.00
		1979-80	337.00	..	..	..	369.00	365.00	365.00	375.00	380.00	260.00	260.00	315.00
		1980-81	315.00	310.00	..	..	..	..	..	..	..	..	..	..
		1981-82	300.00	350.00	350.00	350.00	350.00	350.00	350.00	350.00	425.00	425.00	425.00	425.00	300.00
		1982-83	300.00	..	450.00	450.00	420.00								

TABLE 4.6- (Concluded)

(Rs. per quintal)

State/Centre	Variety	Year	November	December	January	February	March	April	May	June	July	August	September	October	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Maharashtra															
Bombay	Karad Bold (Kernel)	1978-79	310.00	313.00	306.00	308.00	336.00	344.00	345.00	376.00	412.00	460.00	470.00	391.00	
		1979-80	425.00	415.00	394.00	439.00	424.00	436.00	440.00	452.00	485.00	478.00	450.00	445.00	
		1980-81	490.00	520.00	550.00	565.00	557.00	548.00	570.00	585.00	637.00	616.00	630.00	550.00	
		1981-82	552.00	580.00	570.00	544.00	530.00	580.00	600.00	610.00	620.00	600.00	540.00	590.00	
		1982-83	640.00	608.00	595.00	579.00	580.00								
Tamil Nadu															
Madras	Peanut Shelled	1978-79	300.00	325.00	325.00	300.00	312.50	300.00	318.75	337.50	475.00	456.25	500.00	400.00	
		1979-80	387.50	437.50	418.75	443.75	381.25	368.75	496.25	443.75	500.00	480.00	480.00	490.00	
		1980-81	490.00	500.00	581.25	593.75	..	..	..	..	..	..	..	..	..
		1981-82	..	..	581.25	562.50	462.50	493.75	518.75	581.25	562.50	568.75	568.75	600.00	
		1982-83	587.50	606.25	593.75	568.75	550.00								
Uttar Pradesh															
Kanpur	With Shell	1978-79	164.00	176.00	196.00	215.00	200.00	215.00	214.00	220.00	235.00	285.00	295.00	240.00	
		1979-80	265.00	276.00	275.00	410.00	340.00	380.00	370.00	..	..	..	..	..
		1980-81	..	385.00	390.00	365.00	365.00	370.00	400.00	410.00	450.00	463.00	460.00	418.00	
		1981-82	400.00	330.00	330.00	340.00	355.00	358.00	370.00	385.00	395.00	400.00	395.00	384.00	
		1982-83	395.00	390.00	395.00	390.00	395.00								

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 4-7
Groundnut Oil : Month-end Wholesale Prices

(Rs. per quintal)

State/Centre	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Andhra Pradesh</i>													
Hyderabad	1978-79	660·00	670·00	675·00	650·00	690·00	685·00	720·00	800·00	940·00	1020·00	1100·00	850·00
	1979-80	930·00	890·00	860·00	1000·00	900·00	910·00	925·00	940·00	1060·00	1050·00	950·00	900·00
	1980-81	1020·00	1120·00	1220·00	1300·00	1295·00	1293·00	1320·00	1435·00	1530·00	1470·00	1552·00	1325·00
	1981-82	1320·00	1315·00	1360·00	1350·00	1280·00	1240·00	1260·00	1400·00	1330·00	1320·00	1320·00	1320·00
	1982-83	1355·00	1340·00	1315·00	1330·00								
<i>Gujarat</i>													
Rajkot	1978-79	693·75	700·00	687·50	678·00	730·00	750·00	765·00	875·00	990·00	1145·00	1270·00	1000·00
	1979-80	980·00	944·00	863·00	969·00	1000·00	1018·00	994·00	1030·00	1069·00	987·00	881·00	981·00
	1980-81	1056·00	1180·00	1131·00	1337·00	1336·00	1344·00	1393·00	1381·00	1565·00	1557·00	1675·00	1401·00
	1981-82	1245·00	1312·00	1319·00	1331·00	1321·00	1237·00	1216·00	1223·00	1437·00	1387·00	1351·00	1362·00
	1982-83	1419·00	1424·00	1431·80	1391·00	1419·00							
<i>Maharashtra</i>													
Bombay	1978-79	660·00	690·00	672·50	672·50	710·00	737·50	745·00	845·00	977·50	1060·00	1155·00	890·00
	1979-80	950·00	917·50	870·00	985·00	955·00	972·50	977·50	1005·00	1080·00	1065·00	965·00	995·00
	1980-81	1050·00	1150·00	1227·00	1330·00	1290·00	1280·00	1357·00	1372·50	1570·40	1487·20	1617·20	1341·60
	1981-82	1344·20	1346·80	1375·40	1430·00	1315·60	1261·00	1287·00	1419·60	1423·80	1365·00	1349·40	1319·00
	1982-83	1414·40	1427·40	1411·80	1366·00	1372·50							
<i>Tamil Nadu</i>													
Madras	1978-79	645·00	700·00	670·00	655·00	705·00	675·00	700·00	770·00	955·00	1010·00	1060·00	920·00
	1979-80	885·00	910·00	900·00	1030·00	900·00	900·00	925·00	970·00	1050·00	1050·00	975·00	1040·00
	1980-81	1090·00	1085·00	1260·00	1290·00	1170·00	1260·00	1300·00	1340·00	1460·00	1390·00	1400·00	1200·00
	1981-82	1250·00	1230·00	1320·00	1270·00	1120·00	1100·00	1180·00	1290·00	1300·00	1280·00	1260·00	1310·00
	1982-83	1300·00	1380·00	1340·00	1300·00	1275·00							
<i>Uttar Pradesh</i>													
Kanpur	1978-79	675·00	670·00	675·00	650·00	700·00	730·00	790·00	810·00	930·00	1015·00	1035·00	1045·00
	1979-80	1080·00	1040·00	925·00	1035·00	1010·00	980·00	980·00	980·00	1050·00	1060·00	1070·00	1075·00
	1980-81	1080·00	1070·00	1125·00	1130·00	1200·00	1240·00	1300·00	1325·00	1380·00	1375·00	1390·00	1400·00
	1981-82	1400·00	1285·00	1260·00	1270·00	1290·00	1325·00	1325·00	1355·00	1365·00	1375·00	1360·00	1325·00
	1982-83	1320·00	1320·00	1325·00	1330·00	1325·00							

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 4-8
Soyabean : Month-end Wholesale Prices

(Rs. per quintal)

State/Centre	Variety	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Madhya Pradesh														
Indore	Black	1978-79	157.00	190.00	165.00	165.00	175.00	175.00	180.00	200.00	200.00	180.00	..	175.00
		1979-80	175.00	200.00	190.00	205.00	190.00	195.00	240.00	195.00	..	225.00	..	..
		1980-81	237.00	277.00	290.00	300.00	295.00	292.00	300.00	302.00	310.00	270.00	258.00	260.00
		1981-82	270.00	254.00	285.00	280.00	280.00	294.90	295.25	364.00	330.00	325.00	265.00	270.00
		1982-83	248.50	242.00	..	285.00	246.00	..	..	..	..	..	..	..
Dewas	Superior	1978-79	175.00	146.00	180.00	186.00	181.00	186.00	190.00	217.00	216.00	171.90	..	181.10
		1979-80	181.00	195.00	193.70	200.00	203.00	202.10	195.00	204.00	215.00	200.00	200.00	..
		1980-81	215.00	270.00	290.00	290.00	300.00	305.00	305.00	305.00	307.00	306.00	..	..
		1981-82	270.00	229.00	281.00	280.00	274.00	275.50	310.00	402.00	355.00	304.50	265.00	281.00
		1982-83	275.00	283.00	293.00	302.00	297.00	..	..	..	..	..	..	..
Mahu	Black	1978-79	..	157.00	162.00	158.00	175.00	172.00	..	..	..	205.00	202.00	163.00
		1979-80	176.00	174.00	176.00	195.00	180.00	185.00	190.00	185.00	217.00	..	..	215.00
		1980-81	215.00	270.00	277.00	271.00	271.00	274.00	280.00	300.00	296.00	275.00	230.00	235.00
		1981-82	234.00	240.00	264.00	262.00	240.00	249.00	288.00	..	290.00	250.00	250.00	270.50
		1982-83	..	..	265.00	268.00	269.50	..	..	..	..	..	..	..

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 4.9
Sunflowerseed : Month-end Wholesale Prices

(Rs. per quintal)

State/Centre	Year	November	December	January	February	March	April	May	June	July	August	September	October
1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Andhra Pradesh</i>													
Badepalli	1978-79	..	..	..	170.00	..	..	..	..	..	227.75	..	..
	1979-80	..	..	..	..	..	..	..	..	..	..	..	..
	1980-81	160.00	..	..	..	..	300.00	..	..	..	..	..	..
	1981-82	..	..	..	..	..	298.50	289.20	..	..	..	395.50	397.55
	1982-83	..	..	..	..	..	..	..	..	..	..	..	..
<i>Karnataka</i>													
Gulbarga	1978-79	..	..	..	..	..	..	..	..	..	..	..	..
	1979-80	..	..	..	..	..	..	..	..	..	..	..	..
	1980-81	..	..	..	..	..	..	..	..	..	..	..	..
	1981-82	..	..	..	..	..	..	..	..	435.00	..	336.00	409.00
	1982-83	440.00	440.00	430.00	425.00	414.00	..	..	..	..	..	..	..
<i>Maharashtra</i>													
Khamgaon	1978-79	242.00	233.00	234.00	222.00	230.00	193.00	..	230.00	235.00	251.00	270.00	271.00
	1979-80	321.00	318.00	268.00	270.00	254.00	250.00	215.00	245.00	..	..	..	332.00
	1980-81	388.00	390.00	377.00	384.00	..	332.00	380.00	..	..	299.00	..	389.00
	1981-82	410.00	427.00	400.00	388.00	320.00	..	280.00	500.00	250.00	..	..	377.00
	1982-83	440.00	443.00	..	..	..	..	..	..	..	..	..	..
Nagpur	1978-79	190.00	190.00	190.00	190.00	190.00	190.00	190.00	190.00	..	..	..	..
	1979-80	..	..	..	290.00	280.00	280.00	280.00	280.00	280.00	280.00	280.00	..
	1980-81	300.00	300.00	..	..	..	..	..	..	..	..	..	..
	1981-82	..	..	380.00	380.00	380.00	380.00	380.00	390.00	390.00	300.00	380.00	380.00
	1982-83	380.00	380.00	370.00	370.00	370.00	..	..	..	..	..	..	..

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

TABLE 4.10

Groundnut : Estimates of Cost of Cultivation Production and related Data. (In Rs.)

Item	Gujarat 1980-81	Madhya Pradesh 1980-81
1	2	3
Cost of cultivation per hectare (Rs.)		
A1	1449.89	931.10
A2	1455.31	931.10
B	1974.39	1810.20
C	2160.62	1968.54
Yield per hectare (quintals)	7.20	8.94
Value of the main product per hectare (Rs.)	2301.77	2619.01
Value of the by-product per hectare (Rs.)	401.25	53.43
Cost of production per quintal (Rs.)		
A1	145.64	98.17
A2	146.40	98.17
B	218.49	196.51
C	244.36	214.22
Material and labour Inputs used per hectare		
Seed (Kgs.)	85.92	89.62
Fertilizer (Kgs. in terms of nutrients)	57.86	19.06
Manure (Quintals)	23.71	1.94
Human labour (man hours)	357.36	510.68
Bullock labour (pair hours)	62.34	118.08

Note: 1. The estimates are provisional.

2. Cost of production per quintal is obtained by dividing the cost of cultivation per hectare (net of the value of by-product) by the yield per hectare.

3. Cost A1 pertains to the paid-out costs or expenses incurred in cash and kind on material inputs, hired human labour, bullock and machine labour (both hired and owned), etc. when rent paid for leased-in-land is added to cost A1, one gets Cost A2, i.e. paid-out costs of a tenant cultivator. Cost B is obtained with the addition to cost A2 of imputed rental value of owned land and interest on owned fixed capital, and Cost C, with the further addition of the imputed value of the family labour.

Source: Direct rate of Economics and Statistics, Ministry of Agriculture.

TABLE 4.11

Groundnut : Break-up of Cost of Cultivation per hectare (In Rs.)

Cost Items	Gujarat 1980-81	Madhya Pradesh 1980-81
1	2	3
Operational Cost	1612.72	988.33
Human labour	366.89	283.81
Casual	167.13	106.55
Attached	13.53	18.92
Family	186.23	158.34
Bullock labour	338.93	137.24
Hired	10.64	2.45
Owned	328.29	134.79
Machine labour	60.96	..
Hired	22.14	..
Owned	38.52	..
Seed	445.50	441.09
Fertilizer and Manure	267.62	100.66
Fertilizer	194.08	81.32
Manure	73.54	19.34
Insecticides	42.96	..
Irrigation charges	46.93	0.38
Interest on working capital	43.23	25.15
Fixed Cost	547.90	980.21
Rental value of owned land	435.06	661.68
Rent paid for leased-in land	5.43	..
Land revenue, cesses and taxes	10.10	6.43
Depreciation on implements & farm buildings	13.30	94.68
Interest on fixed capital	84.01	217.42
TOTAL COST	2160.62	1968.54

TABLE 5.1

Area, Production and Yield of Cotton

Area : '000 hectare
 Production : '000 bales of
 170 Kgs.
 Yield : Kgs. per hectare

State	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82 (Final)
1	2	3	4	5	6	7	8
<i>Maharashtra</i>							
Area	2,310	2,120	2,314	2,509	2,588	2,667	2,710
Production	772	833	1,263	1,317	1,695	1,269	1,465
Yield	57	67	93	89	111	81	92
<i>Gujarat</i>							
Area	1,778	1,726	1,829	1,759	1,717	1,572	1,531
Production	1,677	1,630	1,942	2,101	1,785	1,714	2,095
Yield	160	161	181	203	177	185	233
<i>Punjab</i>							
Area	580	557	606	633	630	648	683
Production	1,235	1,138	1,224	1,339	1,207	1,178	1,270
Yield	362	347	343	360	326	309	316
<i>Karnataka</i>							
Area	956	759	1,004	1,065	1,114	956	966
Production	587	460	802	766	737	469	538
Yield	104	103	136	122	112	83	95
<i>Andhra Pradesh</i>							
Area	260	288	415	385	409	419	470
Production	239	261	217	350	450	750	662
Yield	156	154	89	155	187	304	236
<i>Haryana</i>							
Area	255	249	265	285	313	317	327
Production	465	499	464	601	587	650	680
Yield	310	341	298	358	319	349	354
<i>Tamil Nadu</i>							
Area	208	249	325	347	280	223	253
Production	253	348	538	569	387	265	310
Yield	207	246	281	279	236	202	208
<i>Madhya Pradesh</i>							
Area	637	606	685	675	614	595	602
Production	272	278	299	297	246	268	328
Yield	73	78	74	75	68	77	93
<i>Rajasthan</i>							
Area	309	289	270	403	392	357	380
Production	404	348	452	570	484	388	426
Yield	223	205	208	240	210	185	191
<i>All-India</i>							
Area	7,350	6,885	7,866	8,119	8,127	7,823	7,987
Production	5,950	5,839	7,243	7,958	7,648	7,010	7,826
Yield	138	144	157	166	160	152	167

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

TABLE 3.2
Irrigation Area under Cotton

	('000 hectares)						
State	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5	6	7	8
<i>Andhra Pradesh</i>							
1. Total Area . . .	260	288	415	385	409	419	476
2. Irrigated Area . . .	13	26	38	24	24*	100	106
(2) as percentage of (1) . . .	5.0	9.0	9.2	6.2	5.9	23.9	22.3
<i>Gujarat</i>							
1. Total Area . . .	1,778	1,726	1,829	1,759	1,717	1,572	1,531
2. Irrigated Area . . .	384	448	523	303	300	375	375*
(2) as percentage of (1) . . .	21.6	26.0	28.6	17.2	17.5	23.9	24.5
<i>Haryana</i>							
1. Total Area . . .	255	249	265	285	313	317	327
2. Irrigation Area . . .	251	240	261	280	312	295	320
(2) as percentage of (1) . . .	98.4	96.4	98.5	98.3	99.7	93.1	98.0
<i>Karnataka</i>							
1. Total Area . . .	956	759	1,004	1,065	1,114	956	966
2. Irrigated Area . . .	63	67	86	99	103	103	82
(2) as percentage of (1) . . .	6.6	8.8	8.6	9.3	9.3	10.8	8.5
<i>Madhya Pradesh</i>							
1. Total Area . . .	637	606	685	675	614	595	602
2. Irrigated Area . . .	17	24	37	58	58*	50	48
(2) as percentage of (1) . . .	2.7	4.0	5.4	8.6	9.5	8.4	8.0
<i>Maharashtra</i>							
1. Total Area . . .	2,310	2,120	2,314	2,509	2,588	2,667	2,710
2. Irrigated Area . . .	64	53	82	99	152	150(T)	150(T)
(2) as percentage of (1) . . .	2.8	2.5	3.5	4.0	5.9	5.6	5.5
<i>Punjab</i>							
1. Total Area . . .	580	557	606	633	630	648	683
2. Irrigated Area . . .	572	545	597	621	624	637	661
(2) As percentage of (1) . . .	98.6	97.7	98.5	98.1	99.0	98.3	96.8
<i>Rajasthan</i>							
1. Total Area . . .	309	289	370	403	392	357	380
2. Irrigated Area . . .	231	236	313	346	342	316	335
(2) as percentage of (1) . . .	74.8	81.7	84.6	85.9	87.9	85.5	88.2
<i>Tamil Nadu</i>							
1. Total Area . . .	208	240	325	347	280	223	253
2. Irrigated Area . . .	72	89	147	165	165*	113	87
(2) as percentage of (1) . . .	34.6	37.1	45.2	47.6	58.0	50.7	34.4
<i>All India</i>							
1. Total Area . . .	7,350	6,885	7,866	8,119	8,127	7,823	7,987
2. Irrigated Area . . .	1,694	1,750	2,110	2,022	2,080	2,139	2,185
(2) as percentage of (1) . . .	23.0	25.4	26.8	24.9	25.6	27.3	27.4

I : Target.

: Last Year data repeated.

P : Provisional.

Source : 1. Directorate of Economics and Statistics, Ministry of Agriculture up to 1978-79.
2. State Government replies from 1979-80 onwards.

TABLE 5.3

Compound Rates of Growth in Area, Production and Yield of Cotton.

(Percent per annum)

State/Staple-Group	Period	Area	Production	Yield
1	2	3	4	5
1. Maharashtra	1972-73 to 1981-82	1.42	3.69	2.20
2. Gujarat	1972-73 to 1981-82	-1.30	3.15	4.48
3. Punjab	1972-73 to 1981-82	3.26	1.20	-1.98
4. Karnataka	1972-73 to 1981-82	6.51	-1.58	-8.16
5. Andhra Pradesh	1972-73 to 1981-82	3.83	13.88	9.68
6. Haryana	1972-73 to 1981-82	3.30	5.20	1.87
7. Tamil Nadu	1972-73 to 1981-82	-2.79	0.91	1.66
8. Madhya Pradesh	1972-73 to 1981-82	1.66	-0.54	-0.10
9. Rajasthan	1972-73 to 1981-82	3.11	4.93	1.75
10. All India	1972-73 to 1981-82	1.21	3.05	2.18
	1960-61 to 1970-71	-0.27	-0.28	-0.01
<i>Staple-Wise</i>				
Long	1972-73 to 1981-82	..	8.01	..
Medium	1972-73 to 1981-82	..	2.99	..
Short	1972-73 to 1981-82	..	-6.26	..

Source : 1. For the period, 1972-73 to 1981-82, the Growth Rates for different States and for All India were worked out in the commission on the basis of data on area, production and yield of Cotton published by the Directorate of Economics and Statistics, Ministry of Agriculture.

2. Growth Rate for All India 1960-61 to 1970-71 and Staple-wise are based on the Index Numbers of area, production and Yield of Cotton published by the Directorate of Economics and Statistics, Ministry of Agriculture.

TABLE 5.4

Balance Sheet of Cotton

(Lakh bales of 170 kgs. each)

Season	Opening Stock	Crop Production (Trade estimates)	Imports	Total Supply	Mills Consumption	Extra Factory Consumption	Exports	Total off-take
1	2	3	4	5	6	7	8	9
1970-71	18.2	59.8	8.9	86.9	62.7	4.2	2.2	69.1
1971-72	17.8	77.3	7.9	103.0	67.4	4.2	2.4	74.0
1972-73	29.0	69.4	4.9	103.3	68.7	4.2	2.4	75.3
1973-74	28.4	70.4	1.9	100.7	72.3	4.3	3.7	80.3
1974-75	27.1	76.8	1.5	105.4	71.1	4.8	1.5	77.4
1975-76	30.7	66.5	1.3	98.5	75.6	4.5	4.1	84.2
1976-77	19.0	62.5	8.2	89.7	67.5	5.5	0.1	73.1
1977-78	12.4	71.4	3.2	86.6	66.2	2.0	..	68.2
1978-79	21.0	79.3	0.3	100.6	69.8	2.5	2.9	75.2
1979-80	27.8	76.5	..	104.3	74.1	2.5	4.7	81.3
1980-81	25.6	78.0	..	103.6	76.8	3.4	6.6	87.2
1981-82(E)	16.4	84.0	0.5	100.9	71.2	4.0	3.8	79.0
1982-83(E)	22.75	82.0	..	104.75	74.00	4.0	6.5	84.5
1983-84(E)	20.3							

(E) : Estimated.

Sources : 1. Upto 1976-77 Indian Cotton Annual East Indian Cotton Association, Bombay.

2. For 1977-78 onwards, office of the Textile Commissioner, Ministry of Commerce.

TABLE 5-5
Index Numbers of Wholesale Prices of Raw Cotton

(Base : 1970-71=100)

Month	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
1	2	3	4	5	6	7	8	9
September	135.6	200.9	189.6	167.8	165.4	170.3	240.3	207.4
October	130.6	206.1	181.8	167.2	166.3	171.3	232.2	203.3
November	127.9	207.1	177.2	168.2	167.0	178.8	226.2	197.7
December	132.4	202.1	185.0	166.9	165.2	198.2	227.7	192.8
January	143.6	213.7	186.5	165.1	161.6	215.2	224.9	186.3
February	143.1	215.0	178.7	161.8	164.2	213.9	213.8	186.4P
March	141.2	209.4	187.5	164.1	165.6	221.5	202.1	195.4P
April	157.6	209.6	174.7	167.2	164.9	227.4	198.2	
May	175.2	214.0	174.0	163.6	163.6	230.3	199.9	
June	183.3	210.5	173.9	161.7	163.5	231.2	207.2	
July	201.4	206.7	171.3	162.7	165.7	234.6	299.9	
August	197.9	197.8	168.4	162.2	168.7	236.7	209.0	
Average	155.8	207.7	178.3	164.9	165.1	210.8	216.0	

P : Provisional.

Source : Office of the Economic Adviser, Ministry of Industry.

TABLE 5-6
Month-end Wholesale Prices of Kapas

State/Centre	Variety/Season	September	October	November	December	January	February	March	April	May	June	(Rs. per quintal) July	August
1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Andhra Pradesh</i>													
Adoni	Hybrid-4												
	1978-79	486.90	514.00	543.00	538.30	522.00	507.00	511.10	485.00	389.60	N.T.	319.60	416.90
	1979-80	..	..	..	..	..	..	..	..	..	..	431.00	..
	1980-81	N.A.	528.00	536.00	N.A.	587.00	603.90	536.90	625.00	553.00	..	576.90	N.A.
	1981-82	..	611.00	633.00	625.00	566.00	569.00	532.00	490.00	426.00	581.00	406.00	337.00
	1982-83	..	575.00	..	512.90	..	..	..	453.00	..	..	..	..
	Percentage Change in 1982-83 over 1981-82	..	(-)5.9	..	(-)16.6	-	..	..	(- )7.6	..	..	..	..
<i>Gujarat</i>													
Broach	Shankar-4												
	1978-79	N.A.	N.A.	500.00	525.00	550.00	485.00	530.00	475.00	500.00	..	..	..
	1979-80	N.A.	N.A.	540.00	475.00	491.00	525.00	475.00	440.00	N.A.	..	..	..
	1980-81	N.A.	N.A.	..	550.00	620.00	618.00	550.00	525.00	500.00	..	..	..
	1981-82	N.A.	N.A.	605.00	590.00	550.00	520.00	475.00	425.00	375.00	..	..	..
	1982-83	N.A.	N.A.	N.A.	520.00	525.00	550.00	600.00	530.00	..	..	..	..
	Percentage change in 1982-83 over 1981-82	..	..	..	(- )11.9	(-)4.6	(+)5.8	(+)26.3	(+)24.7	..	..	..	..
	Divvijay												
	1978-79	N.A.	N.A.	450.00	400.00	410.00	425.00	450.00	425.00	400.00	N.A.	N.A.	N.A.
	1979-80	N.A.	N.A.	475.00	400.00	380.00	440.00	445.00	420.00	N.A.	N.A.	N.A.	N.A.
	1980-81	N.T.	N.T.	..	500.00	580.00	575.00	604.00	612.00	605.00	N.A.	N.A.	N.A.
	1981-82	N.A.	N.A.	..	500.00	500.00	555.00	500.00	475.00	470.00	..	..	..
	1982-83	N.A.	N.A.	..	400.00	435.00	460.00	500.00	515.00	..	..	..	..
	Percentage change in 1982-83 over 1981-82	..	..	..	(- )20.0	(-)13.0	(-)17.1	..	(-)8.4	..	..	..	..
<i>Karnataka</i>													
Hubli	Laxmi												
	1978-79	225.00	182.00	285.00	251.00	233.00	332.00	239.25	245.00	238.00	256.00	211.00	275.00
	1979-80	291.00	N.T.	303.00	271.00	278.00	292.00	262.00	276.00	281.00	276.00	275.00	311.00
	1980-81	281.00	N.T.	N.A.	360.00	401.00	475.00	523.00	509.00	480.00	510.00	506.00	485.00
	1981-82	N.A.	481.00	433.00	450.00	410.00	405.00	416.00	345.00	392.00	412.00	381.00	381.00
	1982-83	381.00	426.00	444.00	341.00	268.00	302.00	449.00	401.00	..	..	..	..
	Percentage change in 1982-83 over 1981-82	-	(-)11.4	(+)2.5	(-)24.2	(-)34.6	(-)25.4	(+)7.9	(+)16.2	..	..	..	..

TABLE 5.6—(Concluded)
Month-end Wholesale Price of Kapas

(Rs. per quintal)

State/Centre	Variety/Season	September	October	November	December	January	February	March	April	May	June	July	August
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Karnataka Raknur	<i>Vinalaxmi</i>												
	1978-79	593.75	509.25	527.75	550.00	545.00	530.00	513.00	561.75	470.00	443.00	454.75	505.00
	1979-80	453.75	561.25	563.75	530.00	515.00	520.00	427.75	466.75	532.00	531.00	402.00	496.75
	1980-81	465.75	465.75	574.75	638.75	541.00	559.75	N.A.	N.A.	661.00	646.00	550.75	695.00
	1981-82	655.00	641.25	672.25	607.00	530.00	479.00	452.00	488.00	545.00	595.00	547.00	587.00
	1982-83	420.00	526.00	517.00	..	..	..	..	..	..	..	..	..
	Percentage change in 1982-83 over 1981-82	(-) 35.9	() 18.0	(-) 23.1	..	..	..	..	..	..	..	..	..
Punjab Abohar	<i>American-320-F</i>												
	1978-79	301.00	330.00	310.00	327.00	290.00	290.00	377.00	370.00	352.00	N.A.	N.A.	N.A.
	1979-80	370.00	375.00	380.00	382.00	381.00	390.00	375.00	365.00	320.00	315.00	N.A.	N.A.
	1980-81	298.00	405.00	450.00	485.00	488.00	545.00	555.00	525.00	460.00	N.A.	N.A.	N.A.
	1981-82	537.00	475.00	515.00	505.00	510.00	485.00	480.00	488.00	460.00	465.00	N.A.	N.A.
	1982-83	485.00	495.00	450.00	400.00	395.00	385.00	405.00	..	..	..	..	..
	Percentage change in 1982-83 over 1981-82	(-) 9.7	(+) 3.8	(-) 12.6	(-) 20.8	(-) 22.6	(-) 20.6	(-) 15.6	..	..	..	..	..
Bhatinda	<i>American 320-F</i>												
	1978-79	..	295.00	305.00	295.00	265.00	269.00	355.00	N.A.	N.A.	N.A.	N.A.	N.A.
	1979-80	N.A.	350.00	372.00	348.00	360.00	382.00	365.00	335.00	N.A.	N.A.	N.A.	N.A.
	1980-81	N.A.	387.00	405.00	442.00	442.00	533.00	527.00	522.00	N.A.	N.A.	N.A.	N.A.
	1981-82	N.A.	475.00	500.00	492.00	500.00	490.00	435.00	416.00	N.A.	N.A.	N.A.	N.A.
	1982-83	N.A.	450.00	440.00	385.00	380.00	386.00	440.00	450.00	..	..	..	..
	Percentage change in 1982-83 over 1981-82	..	(-) 5.3	(-) 12.0	(-) 21.8	(-) 24.0	(-) 21.2	(+) 1.2	(+) 8.2	..	..	..	..
Tamil Nadu Tirupur	<i>MCU-5-I</i>												
	1978-79	550.00	T.N.	N.T.	525.00	535.00	520.00	490.00	510.00	520.00	520.00	525.00	454.00
	1979-80	456.00	457.00	415.00	543.00	465.00	495.00	495.00	495.00	480.00	488.00	N.A.	N.A.
	1980-81	570.00	517.00	532.00	606.00	645.00	630.00	630.00	656.00	630.00	605.00	625.00	640.00
	1981-82	640.00	646.00	599.00	595.00	580.00	560.00	580.00	580.00	590.00	600.00	602.00	..
	1982-83	605.00	572.00	640.00	610.00	570.00	590.00	605.00	645.00	..	..	..	..
	Percentage change in 1982-83 over 1981-82	(-) 5.5	(-) 1.5	(+) 6.8	(+) 2.5	(-) 1.7	(+) 5.4	(+) 4.3	(+) 11.2	..	..	..	..

N.A. : Not Available.

N.T. : No Transaction.

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 5.7
Month-end spot rates of important varieties of Cotton Lint at Bombay Market

(Rs. per quintal)

Variety/Season	September	October	November	December	January	February	March	April	May	June	July	August
1	2	3	4	5	6	7	8	9	10	11	12	13
J-34												
1980-81	90	991	991	1,223	1,202	1,237	1,399	1,434	1,406	1,448	1,448	1,490
1981-82	1,518	1,279	336	1,322	1,286	1,279	1,132	1,132	1,237	1,265	1,251	1,237
1982-83	1,279	1,209	1,104	1,012	1,005	1,026	1,139					
Percentage change in 1982-83 over 1981-82	-15.7	-5.5	-17.4	-23.5	-21.9	-19.8	—	0.6				
Varalaxmi (A)												
1980-81	1,659	1,659	1,673	1,997	1,975	1,863	1,884	1,884	1,884	1,898	1,926	1,912
1981-82	1,940	1,842	1,814	..	1,701	1,589	1,617	1,603	1,503	1,659	1,631	1,617
1982-83	1,659	1,659	1,659	1,575	1,547	1,490	1,547					
Percentage change in 1982-83 over 1981-82	-14.5	-9.9	-8.5	..	-9.1	-6.2	-4.3					
Varalaxmi (B)												
1980-81	1,561	1,519	1,533	1,954	1,919	1,807	1,828	1,828	1,828	1,842	1,870	1,856
1981-82	1,884	1,758	1,687	1,828	1,701	1,575	1,511	1,511	1,518	1,589	1,561	1,603
1982-83	1,575	1,575	1,547	1,420	1,371	1,371	1,518					
Percentage change in 1982-83 over 1981-82	-16.5	-10.4	-8.2	-22.3	-19.4	-13.0	0.5					
Varalaxmi (C)												
1980-81	1,364	1,364	1,378	1,547	1,547	1,547	1,617	1,617	1,617	1,589	1,589	1,589
1981-82	1,682	1,603	1,603	1,800	1,687	1,568	1,462	1,462	1,462	1,490	1,434	1,413
1982-83	1,385	1,385	1,385	1,547	1,547	1,575	1,673					
Percentage change in 1982-83 over 1981-82	-17.7	-13.6	-13.6	-14.1	-8.3	0.5	14.4					
Shankar-4												
1980-81	1,631	1,582	..	1,800	1,772	1,800	1,800	1,842	1,828	1,849	1,863	1,849
1981-82	1,849	1,722	1,694	1,638	1,561	1,518	1,547	1,589	1,631	1,659	1,645	1,659
1982-83	1,631	1,575	1,533	1,448	1,406	1,540	1,575					
Percentage change in 1982-83 over 1981-82	-11.8	-8.5	-9.5	-11.2	-9.9	1.5	1.8					
H-4												
1980-81	1,279	1,279	1,294	1,575	1,575	1,575	1,589	1,575	1,603	1,617	1,603	1,617
1981-82	1,701	1,631	1,603	1,568	1,497	1,469	1,413	1,427	1,435	1,448	1,462	1,448
1982-83	1,420	1,378	1,357	1,350	1,350	1,378	1,504					
Percentage change in 1982-83 over 1981-82	-16.5	-15.5	-15.4	13.9	-9.8	-6.2	6.4					
Digvijay												
1980-81	1,033	1,033	1,047	1,047	..	1,364	1,519	1,547	1,547	1,519	1,519	1,519
1981-82	1,519	1,434	..	..	..	1,350	1,308	1,308	1,336	1,364	1,364	1,350
1982-83	1,322	1,294	1,294	..	..	1,216	1,258					
Percentage change in 1982-83 over 1981-82	-13.0	-9.0	..	..	..	-9.9	(-) 3.8					
Mcu-5												
1980-81	1,568	1,568	1,582	1,715	1,701	1,708	1,772	1,800	1,800	1,800	1,814	1,814
1981-82	1,856	1,687	1,631	1,624	1,568	1,490	1,561	1,575	1,589	1,617	1,603	1,603
1982-83	1,617	1,617	1,617	1,462	1,462	1,518	1,645					
Percentage change in 1982-83 over 1981-82	-12.9	.2	-0.9	-10.0	-6.8	1.9	5.4					

Source : East India Cotton Association, Bombay.

TABLE 5-8

Purchases of Cotton by the Cotton Corporation of India and Maharashtra State Corporation Marketing Federation Ltd.

('000 bales of 170 kgs. each)

	1971 -72	1972 -73	1973 -74	1974 -75	1975 -76	1976 -77	1977 -78	1978 -79	1979 -80	1980 -81	1981 -82	1982 -83
	2	3	4	5	6	7	8	9	10	11	12	13
Purchase by CCI:												
Andhra Pradesh	18	..	18	9	9	38	32	48	70	122	112	100
Gujarat	358	..	3	17	26	120	106	247	165	216	242	67
Haryana	23	84	32	1	7	39	65	124	109	75	72	79
Karnataka	21	1	55	2	24	62	35	133	104	112	62	17
Maharashtra	68	..	..	..	..	..	135	52	..	..	..	..
Madhya Pradesh	5	7	3	2	8	53	66	89	133	199	162	83
Punjab	50	248	189	1	24	132	113	204	344	258	199	166
Rajasthan	3	71	42	1	15	67	92	109	147	129	134	149
Tamil Nadu	1	..	1	2	19	24	37	85	42	65	73	3
All India	547	411	343	35	132	535	662	1091	1,114	1,179	1,056	664*
Purchase by MSCMF in Maharashtra												
	..	1,146	188	1,766	822	814	154	977	1,736	1,296	1,485	1,077**
Total purchases (CCI+MSCMF)												
	547	1,557	531	1,801	954	1,349	816	2,068	2,850	2,475	2,541	1,741
All India Production												
	6,950	5,735	6,309	7,156	5,950	5,839	7,243	7,958	7,698	7,010	7,826	8,200@
CCI Purchases as percentage of All India production												
	7.9	7.2	5.4	0.5	2.2	9.2	9.1	14.0	14.5	16.8	13.5	8.1
Total purchases (CCI+MSCMF) as % of All-India production												
	7.9	27.15	8.42	25.17	16.03	23.10	11.27	25.99	37.02	35.31	32.5	21.2

* : Purchases are upto 22-3-1983.

** : Purchases are upto 11-3-1983.

@ : Trade Estimates

Source : 1. Cotton Corporation of India.

2. Maharashtra State Cooperative Marketing Federation.

TABLE 5-9

Minimum Support Prices for Different Varieties of Kapas

(Rs. per quintal)

Variety	Basic Staple length	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
1	2	3	4	5	6	7	8
Superior Long Staple							
Sarva	1-12/32"	510	510	645	675	..	850
Varalaxmi-A (A.P., Karnataka, TN)	1-7/32"	415	415	448	470	..	560
Varalaxmi-B (Gujarat)	1-6/32"	400	400	432	442	..	540
Varalaxmi-C (Maharashtra)	1-5/32"	385	385	415	425	..	440
Varalaxmi-D (Madhya Pradesh)	1-5/32"	..	..	405	415	..	440
MCU-5-A (A.P., Karnataka, TN)	1-1/8"	380	380	410	453	..	540
Shankar-4 (Gujarat)	1-1/8"	380	380	410	453	..	540
MCU-5-B (Maharashtra)	1-1/16"	365	365	386	426	..	500
H-4	1-1/16"	365	365	395	436	..	520
ISC-67-C (Gujarat-67)	1-1/16"	345	345	..	..	..	..
Giza-7	1-5/32"	420	420	454	..	..	..

TABLE 5-9—(Contd.)
Minimum Support Prices for Different Varieties of Kapas.

(Rs. per quintal)

Variety	Basic Staple length	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
1	2	3	4	5	6	7	8
Sea Island Andrews	1—3/16"	420	420	..	..	..	..
Sujata	1—3/16"	420	420	..	..	..	..
CBS-156	1—3/16"	440	440	..	..	..	..
IAK-579 (188)	1—1/16"	370	370	..	..	..	..
Shankar-6	1—1/8"	..	..	..	..	..	525
<i>Long Staple</i>							
Nimkar	1—1/32"	330	330	354	391	..	490
Laxmi-A (Maharashtra)	1—1/32"	330	330	354	391	..	490
Combodia-A	1—1/32"	330	330	354	391	..	490
Combodia-B	1	310	310	335	370	..	485
1007/MCU/7	31/32"	310	310	335	370	..	485
<i>Superior Medium</i>							
SRT-1	30/32"	325	325	350	387	..	485
Khandwa-2	30/32"	290	290	314	347	..	435
Cambodia-Co2	30/32"	285	285	305	337	..	..
Buri-American	29/32"	285	285	..	359	..	..
L-147	30/32"	300	300	325	359	..	450
JKHY-1	29/32"	320	320	375	414	..	520
F-414/H-777/Agatti	28/29/32"	..	..	275	314	..	395
A-51/9	28/32"	290	290	314	347	..	435
AK-235 and 277/AK-H-4	28/32"	291	291	315	348	..	435
Khandesh Virnar/Y-1	28/32"	285	285	305	337	..	420
Kampi-A/Laxmi	28/32"	280	280	300	331	..	415
Hampi-B	28/32"	..	..	..	320	..	400
Laxmi-B	29/32"	280	280	300	331	..	..
Suyodhar	28/32"	..	..	..	305	..	380
Jayadhar	28/32"	260	260	281	310	..	390
Gaorani	28/32"	261	261	281	310	..	390
Digvijay-A	28/32"	325	325	350	387	..	485
Karunganni	29/32"	262	262	..	..	..	..
Pramukh	28/32"	265	265	..	..	..	..
PA-H-14	28/32"	262	262	..	..	..	..
G. Cot.-11	28/32"	..	..	..	..	..	475
<i>Medium Staple</i>							
Sanjay/CJ-73	27/32"	255	255	275	304	..	380
V-797	27/32"	278	278	295	326	..	410
M.P. Virnar/197-3	27/32"	262	262	282	312	..	400
Wester/Farm	26/32"	230	230	..	..	..	..
Moglai Jerilla	25/32"	253	253	..	..	..	..
Kalyan	25/32"	257	257	..	..	..	..
PA-32-F/J-34/414-F	27/32"	225	255	275	304	..	380
Bikaneri Narne	27/32"	255	255	275	304	..	..
<i>Short Staple</i>							
Bengal Desi	..	210	210	226	250	..	315
Dholleras/Waged	24/32"	235	235	244	270	..	340
Gomra	20/32"	..	..	..	..	..	..
Malhia & Mangari	20/32"	..	..	..	..	..	..
G-27	..	..	..	..	..	..	315
LD-133	18/32"	..	..	..	..	..	325

Source : Office of the Textile Commissioner, Ministry of Commerce.

TABLE 5-10

Minimum Support Prices for Cotton Lint and Kapas

(Rs. per quintal)

Year	Basic Variety	COTTON LINT		KAPAS	
		Based on the recommendation of Agricultural Prices Commission	Announced by the Government	Recommended by Agricultural Prices Commission	Announced by the Government
1	2	3	4	5	6
1965-66	Vidarbha/M. P. Virnar	@	247.00		
1966-67	Vidarbha/M. P. Virnar	..	265.00		
1967-68	Vidarbha/M.P. Virnar	279.00	279.00		
1968-69	Vidarbha/M. P. Virnar	279.00	285.00		
1969-70	Vidarbha/M.P. Virnar	285.00	285.00		
1970-71	Vidarbha/M.P. Virnar	299.00+	299.00		
1971-72	Vidarbha/M.P. Virnar	314.00+			
1972-73	Punjab American 320-F			142.00	142.00
1973-74	Punjab American 320-F			170.00	
1974-75	Punjab American 320-F			195.00	
1975-76	Punjab American 320-F			210.00	210.00
1976-77	Punjab American 320-F			220.00	
1977-78	Punjab American 320-F			255.00	255.00
1978-79	Punjab American 320-F			255.00*	255.00
				290.00*	
1979-80	320-F/414-F/J-34			265.00	275.00
1980-81	320-F/414-F/J-34 Main Report Supplimentary Report			290.00 300.00	304.00
1981-82	320-F/414-F/J-34 Main Report Supplimentary Report			375.00 380.00	
1982-83	J-34-F-414			380.00	380.00

@ : The Commission recommended that the floor price may be increased by Rs. 100 to 150 per candy for different varieties of cotton.

+ : The Commission recommended that the minimum support prices for the different varieties for Cotton during 1970-71 and 1971-72 be raised uniformly by 5 per cent over those announced for the respective preceding season.

* : For the 1978-79 season, the two members of the Commission made different recommendation—one for maintaining the minimum support price for Kapas of 320-F variety at Rs. 255 per quintal and the other for increasing the same to Rs. 200 per quintal.

TABLE 5-11

Cotton : Estimate of Cost of Cultivation/Production and related data

Item	Gujarat		Punjab		Madhya Pradesh	
	1979-80	1980-81	1981-82	1981-82	1981-82	1981-82
	1	2	3	4	5	
Cost of Cultivation per hectare (Rs.)	3624.34	1570.75	1575.38	976.19		
A1						
A2	3665.12	1635.88	1725.03	976.19		
B	4906.32	2661.22	2789.21	1984.74		
C	5102.14	3095.85	3417.03	2142.01		
Yield per hectare (quintals)	11.77	8.72				
Value of the main product per hectare (Rs.)	5723.79	3329.84				
Value of the by-product per hectare (Rs.)	121.17	142.84				
Cost of production: A1 per quintal (Rs.)	297.63	163.75	153.06	136.78		
A2	301.10	171.22	167.49	136.78		
B	406.55	288.81	269.69	279.47		
C	423.19	338.65	331.38	299.94		
Material and labour inputs used per hectare.						
Seed (Kgs.)	2.80	13.79	14.18	31.59		
Fertilizer (Kgs. in terms of nutrients)	173.70	43.91	47.58	27.38		
Manure (Quintals)	50.33	12.71	12.38	17.69		
Human labour (man hours)	1248.04	884.95	778.62	570.79		
Bullock labour (pair hours)	95.88	47.12	39.68	109.35		

Notes: 1. The estimates are provisional.

2. Cost of production per quintal is obtained by dividing the cost of cultivation per hectare (net of the value of by-product) by the yield per hectare.

3. Cost A1 pertains to the paid-out costs expenses incurred in cash and kind on material inputs, hired human labour, bullock and machine labour (both hired and owned), etc. When rent paid for leased-in land is added to cost A1, one gets Cost A2 i.e. paid-out costs of a tenant cultivator. Cost B is obtained with the addition to Cost A2 of imputed rental value of owned land and interest on owned fixed capital, and Cost C, with the further addition of the imputed value of the family labour.

4. The estimates for 1981-82 are based on Sample selected following Crop Complex approach.

Source: Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 5-12

Cotton : Break up of Cost of Cultivation per hectare

Cost Items	Gujarat		Punjab		Madhya Pradesh	
	1979-80	1980-81	1981-82	1981-82	1981-82	1981-82
	1	2	3	4	5	
Operational Cost	3764.77	1937.99	2112.70	1062.29		
Human labour	744.22	996.84	1077.34	320.30		
Casual	347.88	366.05	278.79	145.45		
Attached	200.52	196.16	170.72	16.69		
Family	195.82	434.63	627.83	158.16		
Bullock Labour	436.73	215.25	156.27	271.06		
Hired	5.24	..	0.02	11.40		
Owned	431.49	215.25	156.25	259.66		
Machine Labour	78.97	210.92	216.67	13.75		
Hired	36.68	23.23	32.61	2.97		
Owned	42.29	187.69	184.06	10.78		
Seed	198.16	41.11	52.31	90.66		
Fertiliser and manure	756.75	214.22	258.09	259.68		
Fertiliser	544.11	195.26	238.58	153.60		
Manure	212.64	18.96	20.51	106.26		
Insecticides	1053.33	117.65	144.44	20.21		
Irrigation charges	388.46	96.44	161.61	59.04		
Interest on working capital	108.15	45.56	45.00	27.40		
Fixed Cost	1337.37	1157.86	1304.33	1080.62		
Rental value of owned land	943.18	816.77	783.45	861.41		
Rent paid for leased in land.	40.78	65.83	149.65	..		
Land revenue, cesses taxes.	16.12	17.96	15.30	7.99		
Depreciation on implements and farm buildings	39.26	48.73	75.21	64.08		
Interest on fixed capital	298.03	208.57	280.72	147.14		
TOTAL COST	5102.14	3095.85	3417.03	2142.91		

**2. REPORT
ON
PRICE POLICY
FOR
RABI CROPS OF 1983-84**

PREFACE

The Agricultural Prices Commission submitted its Report on Price Policy for Rabi Crops for 1983-84 crop to be marketed during 1984-85 on 1st September, 1983. In this Report, the Commission had covered Rabi cereals (wheat and barley), Rabi pulses (gram) and Rabi oilseeds (rapeseed & mustard). The Commission had recommended that the procurement price of wheat of fair average quality be fixed at Rs. 155 per quintal. The minimum support price of barley was recommended at Rs. 119 per quintal for ordinary variety and Rs. 130 for huskless variety. The minimum support price of gram was recommended at Rs. 240 per quintal and that of rapeseed and mustard at Rs. 355 per quintal.

After considering the recommendations of the Agricultural Prices Commission and in consultation with the State Governments, the concerned Central economic Ministries and the Planning Commission, the Government fixed the procurement price of wheat of fair average quality at Rs. 152 per quintal. The minimum support price of barley of fair average quality of all varieties was fixed at Rs. 124 per quintal. In the case of gram, the Government fixed the minimum support price at the same level as was suggested by the Agricultural Prices Commission. For rapeseed & mustard, however, the Government fixed the minimum support price at Rs. 360 per quintal, marking an increase of Rs. 5 per quintal over the level suggested by the Agricultural Prices Commission.

S. P. Mukerji

Secretary to the Government of India
Department of Agriculture & Cooperation
Ministry of Agriculture

Dated the
April, 1984.

SUMMARY OF RECOMMENDATIONS

In this Report, the Agricultural Prices Commission presents its views on the price policy for rabi crops to be grown during the 1983-84 season. The Commission recommends that :

General Recommendation

- (i) in view of the remarkable success of the Special Rabi campaign in U.P. in 1983-84 in which fertiliser consumption in that State alone went up by 4 lakh tonnes, as compared to an increase of 3.12 lakh tonnes per annum in the country as a whole in the earlier high growth period of the Fifth Plan, intensive efforts be made for increasing fertiliser consumption in other areas in the ensuing Rabi season : (Para 1.7)
- (ii) the Government should set up an Expert Study Group to evolve a strategy for the least cost solutions to the public distribution system including an in depth analysis of minimization of the transportation cost of multi-point procurement and distribution programme. This Study Group, with which the F.C.I. will have to be actively associated, may also be entrusted the task of examining the feasibility of introducing quality differentials in the entire procurement/distribution chain; (Para 1.13)

Rabi Cereals

- (iii) the procurement price for wheat of fair average quality of the 1983-84 crop to be marketed in 1984-85 season be fixed at Rs. 155 per quintal; (Para 2.14)
- (iv) the minimum support price for barley of fair average quality of the 1983-84 crop to be marketed during the 1984-85 season be fixed at Rs. 119 per quintal and of huskless barley of fair average quality be fixed at Rs. 130 per quintal; (Para 2.24)
- (v) in view of the success of promotion efforts in hitherto low productivity regions, for example the achievement of a yield of around 19 quintals per hectare in many districts in Eastern U.P., where earlier yields were around 11 quintals per hectare, similar efforts at removing specific constraints to production of wheat be mounted in hitherto relatively undeveloped areas; (Paras 2.4 & 2.5)
- (vi) to the extent feasible, procurement centres should be opened on a widespread basis as in the Punjab, in areas where wheat productivity has increased in recent years and where surpluses are beginning to emerge on a small but widespread basis with the farming population. This is necessary in view of the role the procurement machinery

has to provide for price support to small farmers at the time of the peak marketing season; (Para 2.7)

- (vii) in view of the ability of the agrarian economy in selected pockets to keep down unit real costs of production over more than a decade, it be recognised that in these areas the farm economy has developed the capability of diffusing technological progress and adopting input application to changing economic signals. The increasingly specialised requirements of provision and maintenance of infrastructure and marketing support in such regions and of expansion in other developing regions, be accepted and the consequences of such requirements either through pricing of such infrastructure or as a second best through subsidies, be recognised; (Para 2.11)

Rabi Pulses

- (viii) the minimum support price for gram of fair average quality of the 1983-84 crop to be marketed in the 1984-85 season be fixed at Rs. 240 per quintal; (Para 3.11)
- (ix) the trend of acreage expansion and particularly that of irrigated area witnessed in recent years in selected areas suitable for gram cultivation, be sustained and also the available crop technology including spread of improved genetic varieties and certified seeds, be spread particularly in these areas to improve gram yields; (Para 3.6)
- (x) the F.C.I. be entrusted with the responsibility of making adequate arrangements for undertaking timely purchase operations in gram as well as in other pulses. The public sector agency would need to concentrate more in areas where surpluses are emerging on account of area and production performance e.g. in Madhya Pradesh and Rajasthan. Arrangements for support purchases, including tying up of credit availability, will need to be ensured, well before the marketing season; (Para 3.9)

Rabi Oil Seeds

- (xi) the minimum support price for mustard of fair average quality of the 1983-84 crop, to be marketed during the 1984-85 season, be fixed at Rs. 355 per quintal; (Para 4.13)
- (xii) prices of other oilseeds belonging to the rapeseed/mustard group be fixed on the basis of their normal price differentials with mustard; (Para 4.13)

(xiii) considering that rapeseed/mustard has high oil content, as in case of groundnut a National Research Centre be established to coordinate the intensive research activities being already conducted in a number of existing projects, with a view to speeding up the evolution and dissemi-

nation of location specific high yielding varieties of rapeseed/mustard; (Para 4.7) and

(xiv) the financial institutions should support economically viable commercial operations by cooperative and State level agencies in the oilseed markets. (Para 4.11)

1. RABI CROP ECONOMY—AN OVERVIEW

1.1 The production performance in the seventies in the rabi season has, by and large, been impressive. The gross cropped area in the rabi season showed an increase of over 6 per cent between the triennium ending 1971-72 and 1981-82 in the principal rabi growing States. In these States the total gross cropped area had shown an increase of only 4 per cent. There are however large differences in the growth of area achieved in different States. For example in Punjab, the gross cropped area during rabi showed an increase of over 17 per cent between the triennium ending 1971-72 to 1981-82. It increased by less than 5 per cent in West Bengal while it declined in Madhya Pradesh and Bihar. In Haryana, Rajasthan and Uttar Pradesh, the growth in gross cropped area during the rabi season varied between 5 to 6 per cent.

1.2 In the case of foodgrains, the share of the rabi component in the total area and production in the country has been increasing since the late sixties. The rabi share in area increased from 34.2 to 35.0 per cent between the triennia ending 1971-72 and 1981-82. During the corresponding period, the share of rabi production increased from 37.9 to 41.1 per cent implying a faster productivity increase in the case of rabi foodgrains as compared to that of kharif foodgrains. This trend continued in 1982-83, when kharif production declined on account of the drought. The provisional estimates of foodgrains production in 1982-83 indicate that the rabi share was as high as 45.9 per cent. (Table 1.1)

1.3 The degree of stability in foodgrain production witnessed in the recent period, is in no small measure the result of the rabi share in total production gaining prominence. It is well known that in years of reduced foodgrain production as a consequence of adverse climatic conditions, the share of rabi goes up significantly. This happens because the impact of adverse weather conditions on production are increasingly less severe during the rabi season.

1.4 Considering the severity of the drought, the production performance of agriculture in 1982-83 has been encouraging. A comparison of 1982-83 with 1979-80, an earlier year of adverse weather conditions indicates that while the overall agricultural production index has declined by as much as 15 per cent in 1979-80, the decline in 1982-83 is currently estimated between 4-5 per cent. In the case of foodgrains, the decline is estimated at about 5 per cent in 1982-83 as against a decline of over 17 per cent in 1979-80. Even if one takes into account the fact that while in 1979-80, both kharif and rabi seasons witnessed drought conditions, in 1982-83 the adverse effects were, by and large, restricted to kharif season only, the production performance

of 1982-83. based on comparisons of the kharif estimates currently available indicates a measure of stability achieved in agricultural production in the country.

1.5 An analysis of the trends in area under different rabi crops, however, shows that during the last decade considerable reallocation of area took place among the rabi crops. Considering the four major rabi crops, while the area under wheat increased by 23.6 per cent, that under barley decreased by 31.5 per cent between the triennia ending 1971-72 and 1981-82 and also during the same period, the area under gram declined by 9.0 per cent whereas that under rapeseed/mustard increased by 17.9 per cent. Though not a rabi crop, sugarcane also competes with rabi crops for area in some regions and during the period under consideration sugarcane area increased by about 13 per cent. Whereas the area under wheat and rapeseed/mustard expanded by 42.53 lakh hectares and 6.04 lakh hectares respectively between the triennia ending 1971-72 and 1981-82, the area under barley and gram declined by 8.16 lakh hectares and 7.03 lakh hectares respectively during the same period.

1.6 The total irrigated area under rabi crops has increased at an average of 7 lakh hectares per annum between the triennia ending 1969-70 to 1978-79 but in the subsequent three years it failed to increase by more than 3.5 lakh hectares per annum. The Commission in its report on price policy for wheat for the 1982-83 season has observed that during the period 1973-74 to 1978-79, irrigated area under wheat increased on an average by 8 lakh hectares per annum, but preliminary estimates of the State Governments show that during the period 1978-79 to 1980-81 this is unlikely to exceed an average of 3 lakh hectares. However, the available indications are that in 1982-83, the performance in regard to expansion of irrigated area during the rabi has been fairly satisfactory. On the basis of estimates made available by the State Governments, it is estimated that the irrigated area under wheat in 1982-83 has shown an increase of about 8 lakh hectares while under the other important rabi crops it has suffered a decline. The share of irrigated area in the total area under wheat crop which had increased to 65.2 per cent by 1978-79 from 51.6 in 1969-70 has further increased to above 70 per cent in 1982-83. But in the case of gram, it has declined from 17.1 per cent in 1969-70 to 15.4 in 1978-79 and it is currently estimated to have declined further in the subsequent years. Also there was a decline in the irrigated area under barley from 1.41 million hectares in 1969-70 to 0.95 million hectares in 1978-79. In case of rapeseed/mustard, progress has been fairly encouraging as the share

of irrigated area increased from 8 per cent in 1969-70 to 19 per cent by 1978-79 and in the subsequent four years also this tempo appears to have been maintained. (Table 1.2)

1.7 The Commission in its last report on price policy for wheat has also emphasised the need of promoting fertiliser consumption, as between 1979-80 to 1981-82 the increase in consumption of fertiliser has shown some deceleration. It has observed that the increase in fertiliser consumption in the rabi season was only 11 thousand tonnes in 1979-80 and 1.8 lakh tonnes in 1980-81 which picked up to 3.8 lakh tonnes in 1981-82. During 1982-83, the fertiliser consumption during rabi increased by 5.9 lakh tonnes or by about 16 per cent. Also, it needs to be noted that out of about 6 lakh tonnes of additional fertiliser consumption during 1982-83 season more than 4 lakh tonnes was accounted for by Uttar Pradesh alone. This, in no small measure, was the result of special rabi campaign launched and vigorously followed in that State. This highlights the need for intensifying efforts at increasing the fertiliser consumption in other areas, and in view of the fact that fertilizer prices have been reduced across the board by 7½ per cent and the comfortable supply position, should enable such an effort in stepping up in the off-take of fertiliser during the coming rabi season. (Table 1.3)

1.8 An analysis of the behaviour of foodgrain prices in 1982-83, a drought year also points towards the measure of stability achieved in the production and management of the food economy. A comparison of changes in the prices in 1982-83 over the previous year with the changes in the prices in 1979-80, an earlier drought year indicates that the increase in the price was very moderate in 1982-83; all commodities index showed an increase of 2.5 per cent and that of food articles of 3.6 per cent in 1982-83 over that in 1981-82 while in the earlier drought of 1979-80 the increase over the preceding year was 17.1 per cent for all-commodities and of 13.8 per cent for food articles. Even when one compares the changes in the prices in the agriculture year 1982-83 i.e. between July 1982 to June 1983 with that in the same period in 1979-80, the increase in 1982-83 was no more than 5.2 per cent against a rise of 16.8 per cent in 1979-80. The increase in the price of agricultural commodities between July 1982 to June 1983 has been of the order of 8.4 per cent and the commodities accounting for the substantial increase are rice, wheat, jute and oilseeds. The price of rice has increased by 15.9 per cent and that of jute by 48.8 per cent while that of wheat and pulses have increased by 7.6 and 9.8 per cent respectively. In this context, however, it needs to be emphasised that a substantial proportion of the rise in the prices of agricultural commodities has been the result of a sharper increase in the prices of these commodities in the lean period. A comparison of the wholesale price index for

wheat in the peak marketing period of 1982-83 with that in 1981-82 indicates that the price of wheat increased by 4.5 per cent whereas the price of gram has declined by 21 per cent and that of jute increased by 19.7 per cent. This apart, it is also worth noting that while in 1976-77 and 1978-79, the rise in prices over the previous year in case of pulses has been 38 and 14 per cent respectively, in 1982-83, the increase was no more than 2.1 per cent. Similarly, in case of oilseeds, the price in the earlier drought years have increased by 40 and 19 per cent while in the current drought year the rise was no more than 9.8 per cent. (Table 1.4)

1.9 In this context, it also needs to be emphasised that in 1979-80, the money supply (M2) has increased by 17.4 per cent and by 15.2 per cent in 1982-83. With the role of public sector agencies in the marketing of foodgrains increasing the advances for food procurement also have assumed significance. By the end of March the advances decline to a lower level because of decline in the foodgrains stocks but tend to increase with the pick up in the tempo of foodgrains procurement particularly of wheat from April onwards. Food credit dropped from Rs. 2996 crores in June 1979 to Rs. 1990 crores by end-April 1980 but increased to Rs. 2410 crores by end-June 1980. During 1982-83 with the wheat procurement touching a new record level, the food credit also reached a peak of Rs. 3716 crores by June 1983. With some depletion of foodgrain stocks in July and August, it declined to a level of Rs. 3653 crores. Needless to say an increase in food stocks is one of the most important ways of achieving price stability in the current phase of the economy. The behaviour of the monsoon improving in major parts of country is likely to soften the hardening trend noticed in the prices of many agricultural commodities in the last two or three months.

1.10 The Food Corporation of India has been entrusted with the task of procurement and distribution of foodgrains for achieving the Government's price stabilisation and distribution objectives. The economic cost of foodgrains trade consists of procurement price, procurement incidentals and distribution costs. Procurement charges for wheat have gone up from Rs. 8.94 per quintal in 1974-75 to Rs. 23.60 per quintal in 1982-83. Similarly, the distribution charges have increased from Rs. 14.57 to Rs. 36.17 per quintal during the same period. More than two thirds of the costs of procurement consists of obligatory charges, the main items being Mandi charges, Gunny costs and purchase/sales tax, which are not within the control of the F.C.I. Among the items of distribution, freight, interest charges, transit and storage losses, constitute the bulk of the distribution cost. Among other reasons, the procurement costs of grains are high, because some of the State Government resort to various fiscal levies on advalorem basis and at high rates to mobilise resources for the States. (Table 1.5)

1.11 The costs of procurement and distribution systems depend on the prices paid for inputs used in the system e.g. wage rates to labour engaged in handling, freight rates, interest rates, rental charges, etc. Variations in such prices and rates are to a large extent outside the control of the distribution agency. They also depend on the efficiency of input use. Studies conducted on such systems, including some at the state level in India, show that the efficiency of the procurement/distribution system depends on the scale of the operation i.e. at very low levels of procurement/offtake costs per unit are high, as also the minimization of transport costs by advance planning of the multipoint procurement/distribution system. While obvious uncertainties exist here, these can be, to an extent, provided for in the development of strategies. In one state proper demand forecasting of foodgrains offtake could reduce transshipment costs of transportation, by as much as twenty per cent of the incidental charges. An analysis of the procurement distribution charges of the F.C.I. does not show any scale economies, as the cost do not vary in any systematic way with the quantum of grain procured and distributed. Also with the available data it is not possible to examine the technical details of the efficiency of the transportation system of and planning of the F.C.I.

1.12 The Commission had in its Report on Price Policy for Kharif Crops for the 1983/84 season, recommended an increase in the price differentials for different varieties of paddy. This recommendation was not accepted by the Government. The Commission is of the view that at the present stage of development of the agricultural economy, increasing quality differentiation and sensitizing agricultural supplies to changing demand considerations is an important step in the right direction. In this connection, it needs to be noted that while quality differentials are imposed at the stage of procurement and purchase of wheat, such differentials are not

maintained at the stage of distribution in the P.D.S. As noted above, while the Commission is in favour of appropriate quality differentiation in the procurement system, the impact of such differentials at the point of purchase has to be carried through all the stages of the distribution chain.

1.13 The Commission recommends that the Government set up an Expert Study Group to evolve a strategy for the least cost solutions to the public distribution system including an in-depth analysis of minimization of the transportation costs of the multipoint procurement and distribution problem. This study group, with which the FCI will have to be actively associated, may also be entrusted the task of examining the feasibility of introducing quality differentials in the entire procurement/distribution chain.

1.14 The better performance of rabi economy during the 1970's got reflected in the price behaviour of rabi vis-a-vis the kharif cereal crops. Between the triennium ending 1971-72 and 1981-82, while the all-commodities index has shown an increase of 152 per cent and that of rice of 105 per cent, the increase in the price of wheat was no more than 75 per cent. But it is significant to note that whereas the prices of gram showed an increase of 207 per cent that of tur increased by 171 per cent. As a result of divergent trend in production and productivity the relative price structure of rabi crops underwent a sea change between the triennium ending 1971-72 and 1981-82. Taking the farm harvest price of wheat as 100, it is observed that the price of gram, rapeseed/mustard and barley stood at 100.7, 197.9 and 71.9 in the triennium ending 1971-72 but in the triennium ending 1981-82 these have increased to 212.7, 301.4 and 85.7 respectively in Uttar Pradesh. A somewhat similar pattern is observed in all the major rabi producing States. (Table 1.6)

II. RABI CEREALS

A—WHEAT

2.1 Area under wheat peaked at 22.6 million hectares in 1978-79 and did not reach this level in the following three years. However, preliminary information from the wheat growing States indicates that wheat area in 1982-83 would be higher by about 7 lakh hectares than the level of 22.3 million hectares in 1981/82, thus the additional area during the year compares favourably with the long term annual growth rate. In Uttar Pradesh alone, the increase in wheat area during 1982/83 was of the order of 3.7 lakh hectares. In Punjab and Haryana also, the increase was 1.4 and 1.6 lakh hectares, respectively, whereas Madhya Pradesh recorded an increase of about 0.8 lakh hectares. However, in Rajasthan and Maharashtra wheat area is reported to have declined in 1982/83 over 1981/82. The wheat area in the country in the first three years of the Sixth Plan increased by one million hectares as against 3 million hectares increase projected by the end of the Plan. (Table 2.1).

2.2 In its last report on price policy for wheat for the 1982-83 crop, the Commission had mentioned that the major strategies should relate to production and input expansion policies and the creation of adequate extension and infrastructure in diverse conditions in the different wheat growing States. It also emphasised the reinforcement of production planning policies for the wheat economy. The rabi campaign launched by the Central Government in various States for helping the farmers in getting adequate and timely supplies of critical inputs like electricity, diesel, irrigation, improved seeds and fertilisers has helped in increasing both area and productivity of wheat during 1982/83.

2.3 The estimated production of wheat at 41.5 million tonnes in 1982/83 shows a growth of 10 per cent over the preceding year and compares very favourably with the long-term growth of 5.59 per cent in the period 1967/68 to 1981-82. This was made possible by the efforts indicated earlier and favourable weather conditions. Although firm estimates are not yet available, according to the information gathered from the major wheat producing States, the wheat output in 1982/83 may in fact turn out to be somewhat higher than the preliminary figure of 41.5 million tonnes. The increase in production of wheat could not, however, compensate for the impact of adverse weather on the decline in the output of kharif foodgrains, as a result the overall production of foodgrains is estimated at 126.8 million tonnes as against the previous record of 133.1 million tonnes achieved in 1981-82.

2.4 Of the expected additional wheat production in 1982/83 over 1981/82 as much as 2.4 million tonnes came from Uttar Pradesh alone; production increased from 12.9 million tonnes in 1981-82 to 15.3 million tonnes in 1982-83. Yield has improved from an average of 1640 kgs per hectare in 1981/82 to 1860 kgs per hectare in 1982/83. The eastern districts which account for nearly 40 per cent of wheat area in the State contributed an additional production of no less than 8 lakh tonnes during 1982/83. A substantial part of the increased production in these parts of Uttar Pradesh also came from yield expansion. Average yield per hectare in these districts went up from 1528 kgs per hectare in 1981/82 to 1719 kgs per hectare in 1982/83 and the area only from 32.8 lakh hectares to 33.7 lakh hectares. In many of these districts yield which was around 11 quintals per hectare in the early Seventies has now gone up to over 19 quintals. It needs to be noted that in Haryana yields of this magnitude were consistently exceeded only after 1974/75 and even in Punjab two districts had yield levels lower than this. While the irrigated area in the State increased by about 4 lakh hectares in 1982/83 over 1981-82, the area under high yielding varieties of wheat moved up by about a lakh hectares. The fertiliser consumption in the rabi season went up by 4.1 lakh tonnes from 8.96 lakh tonnes in 1981/82 to 13.06 lakh tonnes in 1982/83. The magnitude of this jump can be appreciated by noting that in the country as a whole, rabi fertiliser consumption increased only by an average of 3.12 lakh tonnes per annum, in the period of the Fifth Plan (1973/74 to 1978/79) in which fertiliser consumption growth was high. Punjab, Haryana and Madhya Pradesh also recorded an increase in production of wheat during 1982/83 to the tune of 6.3, 6.6 and 4.1 lakh tonnes respectively owing to the gain in both area and productivity. In Rajasthan though the area under wheat showed a decline, wheat production increased by 2.5 lakh tonnes due to the increase in yield per hectare. In Maharashtra, wheat output declined in 1982/83 on account of a decline in area and unfavourable weather conditions.

2.5 Apart from good weather, performance depends on the development efforts for increasing the productivity levels. According to the data supplied by the State Governments, while the yield per hectare of wheat in 1982/83 was the highest at 3007 kgs in Punjab, it was 1860 kgs, in Uttar Pradesh, 1847 kgs, in Rajasthan, 1379 kgs, in Bihar and 1092 kgs, in Madhya Pradesh. The Commission has highlighted the performance of Eastern Uttar Pradesh, in raising wheat yields in 1982/83, to emphasize that given the neces-

sary effort, yield can also be appreciably raised in hitherto relatively undeveloped areas. This performance has to be accelerated in the context of the overall requirements of the food economy.

2.6 With the expected record production of 41.5 million tonnes, wheat procurement achieved a new record of 8.2 million tonnes in the 1983/84 rabi marketing season, as against 7.7 million tonnes in the corresponding period of the preceding season when the output was 37.8 million tonnes. The procurement of wheat also surpassed the earlier record of 8 million tonnes achieved in the 1979/80 marketing season. Procurement in Punjab has reached 5.2 million tonnes so far in the current marketing season, as compared to 4.8 million tonnes last year. Wheat purchases, so far in Haryana amount to 1.40 million tonnes as compared to 1.26 million tonnes in the last marketing season. In Uttar Pradesh, where wheat production is expected to have increased by 2.4 million tonnes over last year, the total purchases so far are of the order of 1.42 million tonnes as against 1.38 million tonnes in the corresponding period of the preceding season. The percentage of procurement to total production of wheat, in that State came down from 16.4 in 1979/80 to 9.3 in 1983/84 marketing season. The reason for lower procurement in the State might be due to purchases of wheat by private traders in the villages in anticipation of higher prices in the lean season. Wheat procurement has also been lower this year compared to that in the preceding year in other States, apart from Rajasthan where it has increased by 0.4 lakh tonnes. (Table 2.2).

2.7 The marketing support and procurement machinery has to keep pace with the growth and regional spread of wheat productivity increase in the country. Past experience shows that when productivity levels cross 18 quintals per hectare, substantial marketable surpluses start emerging on a widespread basis in the farming community. The question of effective organisation of procurement of marketable surpluses, particularly from a large number of small producers with small surpluses then becomes important, since such sales are made in the relatively brief peak marketing period. Instances have been reported to the Commission of such sales having taken place to the private trade at prices below the support price. The Commission recommends that to the extent feasible, procurement centres should be opened on a widespread basis as in Punjab, in areas where wheat productivity has increased in recent years. This is necessary in view of the role the procurement machinery has in providing price support to small farmers at the time of the peak marketing season.

2.8 Record wheat procurement helped to augment the central foodgrains stocks which increased from 10.5 million tonnes at the end of April 1983 to 16.4 million tonnes at the end of June 1983 with wheat stocks moving from 5.5 million tonnes to 12.3 million tonnes. The

demands of the public distribution system on the Central Pool have also risen considerably from a monthly offtake of 1.16 million tonnes in January 1982 to 1.39 million tonnes in January 1983 and 1.57 million tonnes in March 1983. However, offtake declined to 1.26 million tonnes in June 1983 (Tables 2.3 and 2.4).

2.9 With the prospects of wheat production touching a new high, wholesale prices started declining from March 1983. The Economic Adviser's Index number of wholesale prices of wheat declined from its peak of 248.1 in February 1983 to 210.4 in May 1983 indicating thereby a fall of 15.2 per cent. As against this, in the corresponding period of 1981 and 1982 the index had fallen by 7.1 and 6.8 per cent respectively. Wheat price index in June 1983 remained almost at the same level as in May 1983 because of easy availability of the cereal in the country. However from the first week of July 1983, wheat prices started firming up on account of dwindling market arrivals. The price index at 213.1 in July 1983 was higher by 8.8 per cent compared to that in July 1982, to an extent on account of the higher procurement price and a further increase in the issue price of wheat. (Table 2.5).

2.10 Wholesale market prices of wheat in the surplus States of Punjab, Haryana and some markets in Uttar Pradesh ruled around the level of procurement price during the post-harvest months of 1983/84 marketing season. In other wheat producing States market prices during this period were quoted well above the procurement price. The average wholesale price of wheat during April-June 1983 worked out to Rs. 153.33 per quintal at Karnal in Haryana and Rs. 152 per quintal at Amritsar in Punjab. Also at Chandausi and Bahraich in Uttar Pradesh, these prices stood at Rs. 152.67 and Rs. 155 per quintal respectively. However, at Kanpur in Uttar Pradesh, the average market price of wheat was about Rs. 168.33 per quintal, at Indore in Madhya Pradesh, at Rs. 203.33 per quintal and at Rajkot in Gujarat at Rs. 232.17 per quintal. (Table 2.6).

2.11 The technological changes taking place in the wheat economy are being reflected in the cost structure. In the case of Punjab, analysis of the long term trends in the cost structure of wheat production show the resilience of the farm economy in adapting to changing economic influences and technological options. If triennium averages are taken for the period ending 1972/73 and 1980/81, operational cost per quintal of wheat production at 1971/72 constant prices shows a decline of 7.7 per cent. Such costs however vary annually and are influenced, apart from technological and management improvements, by the weather. However, even accounting for yield variability in different years, the trend in real costs is declining and significant. In any case this very rapid production growth period in the Punjab is not associated with rising unit costs or diminishing returns. This somewhat

remarkable performance can be attributed to the ability of the farm economy as a system to diffuse technological progress and to adapt input application with changing economic signals. In a large measure, market infrastructure and research support provides the back up for such a resilient farm economy. In a high input intensity economy of the Punjab type, the level of such support has to constantly increase, in order to keep up the increased efficiency of resource use. Central of surface water application, fine tuning in conjunctive use of ground and surface water, more balanced use of soil nutrients, genetic research to avoid degradation in quality of seed and increased commercial support through improved market and credit infrastructure, become critical constraints in this process. While the public support mechanisms are well tuned to these requirements, unfortunately it has not been possible for the State to implement pricing policies, which reflect the real social scarcities of inputs, even though the farm economy is in a position to adapt to them without any loss of output and possibly with improved efficiency. In this context there is, as a second best solution, no escape from increased subsidization of higher levels of infrastructure support for the agrarian economy. In other regions where technological progress has not been that quick expansion of infrastructure availability at a faster pace would still be required the economic consequences of subsidization still operates under the conditions described. (Table 2.7).

2.12. More realistic pricing of such scarce infrastructural inputs as flow irrigation and rural power will lead to adoption of cropping patterns and input structure which will economise on such vital inputs. This process may further reduce the real cost of production and release the costly inputs for diffusing the technological progress more widely. Also, many of the ecological problems like water logging in the technologically leading regions could be solved in this way.

2.13. The cost of cultivation/production estimates that have become available after the sub-

mission of the Commission's last report on price policy for wheat are for 1981/82 for the States of Haryana, Madhya Pradesh and Punjab. Although the estimates for 1981/82 are not strictly comparable with data for earlier years, due to changes in the sampling procedure in 1981/82, yet for Punjab the estimated cost of cultivation per hectare in 1981/82 has shown an increase of 15 per cent over that estimated for 1980/81. The cost of production per quintal has however shown a decline from Rs. 124.70 to Rs. 118.77. This results from the increase in the sample yield from 25.20 to 31.79 quintals per hectare. In the case of Haryana, the earlier estimates are available for 1978/79 and the cost of cultivation per hectare in 1981/82 has been estimated at 14.8 per cent higher than that in 1978/79. But the cost of production per unit has increased only by about Rs. 8 per quintal to Rs. 122.32 per quintal as the sample yield increased from 24.86 to 28.82 quintals per hectare. In Madhya Pradesh, the cost of production for 1981/82 is estimated at Rs. 132.67 per quintal. The cost estimates per quintal after adjusting for the changes in the input prices since 1981/82 work-out at about Rs. 120 in Punjab, Rs. 125 in Haryana and Rs. 138 in Madhya Pradesh. For Uttar Pradesh, the cost estimates have not become available for 1981/82 and for 1980/81 the cost of production was estimated at Rs. 121.52 per quintal. Considering the changes in the input prices as well as the changes affected in the electricity rates for rural feeders and recognising that after 1980/81 there has been an increase in the productivity of wheat in Uttar Pradesh, the cost estimate would not work-out to a figure much different from that estimated for Madhya Pradesh. (Tables 2.8A and 2.8B).

2.14 Considering the overall food supply situation and the need for stepping up of wheat production, the changes in the input prices and the cost of production of wheat in different States, the Commission recommends that the procurement price for wheat of fair average quality of 1983/84 crop to be marketed during 1984/85 season be fixed at Rs. 155 per quintal.

B BARLEY

2.15 With expansion of irrigation and consequent large scale adoption of high-yield in varieties of wheat, the area under barley in the country has declined from 33.75 lakh hectares in 1967/68 to 17.50 lakh hectares in 1981/82 showing a fall of 16.25 lakh hectares or 48.2 per cent. According to preliminary estimates received from important barley producing States, the area under barley in 1982/83 is likely to decline further by more than 2 lakh hectares. Wheat area during 1982/83, on the other hand, would show an increase of about 7 lakh hectares over 1981/82. In 1981/82, of the total area under barley, Uttar Pradesh, Rajasthan, Madhya Pradesh and Haryana accounted for 38.9, 25.7, 11.1 and 7.0 per cent respectively. (Table 2.9).

2.16 Decline in acreage under barley during 1982/83 was shared by all the major barley producing States. In Uttar Pradesh, acreage under barley is reported to have declined from 6.81 lakh hectares in 1981/82 to 6.08 lakh hectares in 1982/83. Similarly, Rajasthan, Haryana, Bihar and Madhya Pradesh recorded a decline in area under barley by 67.44, 22 and 16 thousand hectares respectively. It is pertinent to note here that in Uttar Pradesh, Haryana and Madhya Pradesh, wheat area during 1982/83 over 1981/82 increased by 3.7 lakh hectares, 1.3 lakh hectares and 0.73 lakh hectares respectively.

2.17 Data supplied by State Governments indicate that the yield levels of barley during 1982/83 were higher in major barley producing

States of Uttar Pradesh, Rajasthan, Madhya Pradesh and Haryana. In Uttar Pradesh, yield increased from 1099 kgs in 1981/82 to 1327 kgs per hectare in 1982/83, in Rajasthan from 1296 kgs to 1574 kgs per hectare and in Madhya Pradesh from 894 kgs to 921 kgs per hectare. However, in Punjab productivity levels recorded a decline from 2,000 kgs to 1575 kgs per hectare and also in Bihar from 740 kgs to 724 kgs per hectare. The yield levels of barley during 1982/83 in Uttar Pradesh, Rajasthan and Haryana were the highest achieved so far. The long term trend of yield expansion in barley continued in 1982/83.

2.18 Though firm estimates of the size of the barley crop for 1982/83 are not yet available, information received from the State Governments indicate that production will remain at the level of around 20.12 lakh tonnes achieved in 1981/82. In Uttar Pradesh, which accounts for about 45 per cent of the production of barley in the country, output is estimated to have increased by 0.59 lakh tonnes in 1982/83 over 1981/82, though there was a fall in area. In Rajasthan too, despite a decline in area, barley production rose by 0.20 lakh tonnes on account of improved productivity. On the other hand, in Punjab, Haryana, Bihar and Madhya Pradesh barley production in 1982/83 is reported to have declined.

2.19 Technological improvements in the cultivation of barley are important to the economy of the crop. The All India Co-ordinated Barley Improvement Project has developed several dwarf high yielding varieties of huskless barley which are reported to be as good as wheat in colour and texture. These varieties are reported to have good potential and are suited to rainfed conditions. The evolution of huskless varieties of barley, being a promising development, it is imperative that research efforts in this direction be intensified and extension of results be pursued vigorously and supported.

2.20 The all-India index numbers of wholesale prices of barley was at its peak when it stood at 307.4 in February, 1983. With the arrival of the new crop, the price index of barley recorded a seasonal fall of 20.5 per cent when it came down to 244.3 in April 1983. From May 1983 it started firming up and moved to 258.5 in July 1983. However, the price index of barley ruled higher in each month of 1983 than that in the corresponding months in the preceding year. At 258.5 in July 1983, the price index of barley was higher than that in July 1982 by 16.0 per cent. (Table 2.10).

2.21 The wholesale prices of barley in the post-harvest months of 1983/84 marketing season generally rule higher than the prices obtaining in the corresponding period of 1982/83. In Uttar Pradesh, where the production of barley is reported to have increased in 1982/83, barley prices at Hathras were quoted at Rs. 125 per quintal during April to June 1983 as against Rs. 95 to Rs. 110 per quintal in these months of 1982. In Rajasthan, prices at Jaipur ruled between Rs. 135 to Rs. 161 per quintal as against Rs. 112 to Rs. 140 per quintal in the post-harvest months of 1982/83. In Punjab, barley prices at Bhatinda during April-June 1983 ruled between Rs. 105 to Rs. 117 per quintal as against Rs. 80 to Rs. 95 per quintal in the corresponding months of the preceding year. It is to be noted that barley prices at Bhatinda this season ruled below the support price of Rs. 122 per quintal fixed by the Government for the 1983/84 season. In Haryana, prices at Rohtak touched the level of the support price of Rs. 122 per quintal in the month of May 1983. They moved upto Rs. 135 per quintal in June, but again declined to Rs. 125 per quintal in July 1983. Similarly, in Bihar though the production fell by 18 thousand tonnes barley price at Motihari was quoted at Rs. 125 per quintal even in July 1983. (Table 2.11).

2.22 The demand for barley as foodgrain for human consumption and as animal feed has been falling. Further, the demand for barley for industrial use is limited although its growth is high. There is some scope for developing foreign markets for Indian barley provided a sustained export policy is followed for the crop. About 6 thousand tonnes of barley was exported in 1980/81, 4.5 thousand tonnes in 1981/82 and only about 2 thousand tonnes in 1982/83 (upto December 1982).

2.23 No fresh estimates for cost of production for barley have become available since the Commission submitted its last report for the crop.

2.24 In arriving at the level of support price of barley for the 1983/84 crop, the Commission has kept in view relationship between prices of barley and those of related grains and the recent trends in prices of this cereal. Considering these factors, the Commission recommends that minimum support price for barley of fair average quality of 1983/84 crop to be marketed during 1984/85 season be fixed at Rs. 119 per quintal and of huskless barley of fair average quality be fixed at Rs. 130 per quintal.

III. RABI PULSES (GRAM)

General

3.1 While the recent trends in area and production of kharif pulses (tur, moong and urad) have been encouraging, growth in the case of gram has been negative during the period 1967/68 to 1981/82. Gram, the most important of the pulses, with a share of two-fifths of the total output, determines the overall outcome of the pulses economy. (Table 3.1)

Trends in area/yield production

3.2 Gram acreage despite an increase from an average of 7.7 to 7.9 million hectares between the triennia ending 1969/70 and 1978/79, slumped to the low level of 7.0 million hectares in 1979/80 and further down to 6.6 million hectares in 1980/81 following adverse weather, but it rose to 7.8 million hectares in 1981/82. Gram acreage has been expanding in Madhya Pradesh and Rajasthan so that these two States are now among the leading gram producing areas of the country. Between the triennia ending 1969/70 and 1981/82, the crop acreage expanded from 15.9 to 19.7 lakh hectares in Madhya Pradesh and from 12.0 to 15.1 lakh hectares in Rajasthan followed by Maharashtra 3.9 to 4.5 lakh hectares. On the other hand, the acreage tended to decline in the traditional major gram growing regions viz. Uttar Pradesh 22.6 to 15.5 lakh hectares, Haryana 10.1 to 7.8 lakh hectares and Punjab 4.4 to 2.5 lakh hectares. In some relatively non-traditional areas also there has been an expansion in area, namely Gujarat (0.41 to 0.73 lakh hectares) and Orissa (0.23 to 0.44 lakh hectares). The irrigated component as proportion of the total area under gram declined from 16.6 to 15.1 per cent between triennia ending 1969/70 and 1978/79. It is however a matter of satisfaction that alongside expansion of area, the area under irrigation is also expanding in States such as Rajasthan and Madhya Pradesh. Significant expansion in gram acreage is observed particularly in Sagar, Damoh, Narsimhpur, Guna, Vidisha, Rajgarh, Shajapur, Ujjain, Ratlam, Mandsaur, Dewas, Indore and Raisen districts in Madhya Pradesh and in Chittor, Churu, Ganganagar, Jhunjhunu and Sikar districts in Rajasthan. This expansionary trend should be sustained. (Table 3.2)

3.3 Average yield per hectare of gram at the all India level declined from 685 kg. in the triennium ending 1969/70 to 573 kg. in the triennium ending 1981/82. This decline resulted from the locational shift in gram cultivation from more productive to less productive areas. Also as irrigation expanded, better-off lands tended to be shifted away with gram being pushed in

the process to marginal and unirrigated lands. This resulted in the lowering of productivity levels of the crop even in the high productivity States. The fall in productivity was significant in Uttar Pradesh (734 to 656 kg.), Haryana (964 to 467 kg.), Punjab (821 to 577 kg) and even in Rajasthan (675 to 630 kg.).

3.4 Following the decline in acreage and productivity, output of gram fell and averaged 4.1 million tonnes in the triennium ending 1981/82 as compared with 5.3 million tonnes in the triennium ending 1969/70. At the State level, between the triennia ending 1969/70 and 1981/82, the increase in output in Madhya Pradesh (8.5 to 10.9 lakh tonnes), Rajasthan (8.1 to 9.5 lakh tonnes) and Maharashtra (1.1 to 1.7 lakh tonnes), was more than offset by a fall in Haryana (9.7 to 3.6 lakh tonnes), Uttar Pradesh (16.6 to 10.2 lakh tonnes), Punjab (3.6 to 1.4 lakh tonnes) and West Bengal (1.2 to 0.6 lakh tonnes).

3.5 Gram output increased modestly to 4.6 million tonnes in 1981/82 from 4.3 million tonnes in 1980/81. Firm estimates of output of gram for 1982/83 are not available, but the current indications are that of a significantly higher crop, perhaps only marginally lower than the level of 5.7 million tonnes achieved in 1978/79. According to available information, a substantial reduction in acreage was reported in Haryana, Rajasthan, Punjab, Uttar Pradesh and Maharashtra. Nevertheless, thanks to better weather conditions during the period of growth, the crop was reported to have done well in the major gram growing States of Uttar Pradesh, Haryana, Rajasthan and Madhya Pradesh. Output of pulses during 1982/83 is presently estimated at 11.95 million tonnes as against 11.4 million tonnes in 1981/82, despite the reported shortfall in kharif pulses production as a result of severe drought and also floods.

Development Strategy

3.6 Whereas, apart from other factors, rainfall and weather conditions influence the acreage allocation under gram, the major thrust on the production front has to be directed at yield maximisation efforts. The immediate objective, however, should be to make the best use of the available crop technology including improved genetic varieties for achieving higher yields, particularly in those areas where acreage under gram and irrigated area is expanding, as noted earlier. This would require systematic and sustained efforts for overcoming the existing constraints in inputs and services, specially certified seeds of improved varieties of gram as well as in the dis-

semination and adoption of proven agronomic practices and management. The existing programmes for these inputs and services will need to be accelerated in the ensuing rabi season.

Price Behaviour

3.7 Gram prices during 1982/83 marketing season (April-March) registered a decline from the uptrend witnessed during the preceding two seasons. The index of wholesale prices for gram stood at an average of 301.8 during 1982/83 as compared with 369.5 in 1980/81 and 382.2 in 1981/82. In this context, the Commission had in its Report on price policy for gram for 1982/83 crop, highlighted the need for price support for this crop. (Table 3.3)

3.8 During the current marketing season beginning April 1983, prices have been substantially lower than those of the last season. The price index for June 1983 was 282.4 against 309.8 in June 1982. The decline in gram prices during the current season came in the wake of the reported improvement in crop output. Consequently, wholesale prices at many centres in major gram producing States were reported at levels far below the support price of Rs. 235 per quintal announced by Government. During the current season, price quotations for gram below support levels were reported in the range of Rs. 200-233 in Uttar Pradesh, Rs. 200-234 in Rajasthan, Rs. 200-230 in Madhya Pradesh, Rs. 217-225 in Punjab, Rs. 225-230 in Haryana and Rs. 219-234 per quintal in Gujarat. The latest wholesale prices per quintal of gram (Deshi variety) for July 1983 (with corresponding last year's prices in brackets) at selected centres in important gram producing States were Rs. 224 (Rs. 260) at Jhansi, Rs. 220 (Rs. 270) at Sriganaganagar, Rs. 235 (Rs. 257.50) at Bhind, Rs. 235 (Rs. 273) at Rohtak, Rs. 252 (Rs. 309) at Malegaon for yellow variety, Rs. 257 (Rs. 300) at Dohad and Rs. 300 (Rs. 325) at Patna. (Table 3.4)

Price Support

3.9 The absence of an assured marketing channel has been a constraint in the effective implementation of price policy for pulses in general and gram in particular. This has been brought into sharp focus by market prices of gram in recent months falling much below the minimum support price in the important gram growing regions specially Uttar Pradesh, Rajasthan and Madhya Pradesh. The Commission, as noted above, had anticipated the need for support operations for gram in this season. Support purchases of gram were reported to have been undertaken this season in Madhya Pradesh by NAFED, under a directive from the Central Government, to the tune of 10243 tonnes and by State Cooperative Marketing Federation to the tune of 60 thousand tonnes or thereabouts.

While these purchases would have arrested the declining price trend, they could not ensure prices falling below the support level. In this connection, the Commission has been underscoring the importance of setting up, on a continuing basis, a public sector agency, which, through systematic and planned market interventions, would benefit not only the producer in better price realisation but also the consumer by moderating the price fluctuations through the season. Pulses production is scattered and purchases have to be made over a wide front within a short span of time after harvest during which the bulk of the crop arrives in the market. It is understood that this matter is engaging the serious attention of the Government. Arrangements for support purchases, including tying up of credit availability, will need to be ensured well before the marketing season. The Commission has been of the view that the Food Corporation of India (FCI), which has the necessary infrastructure on a countrywide basis, is best suited for undertaking market support operations in pulses including gram. The Commission therefore, reiterates its earlier recommendation that the FCI be entrusted with the responsibility of making adequate arrangements for undertaking timely purchase operations in gram as well as in other pulses. The public sector agency would need to concentrate more in areas where surpluses are emerging particularly in States like Madhya Pradesh and Rajasthan apart from Uttar Pradesh.

3.10 As regards the cost of production of gram, after the submission of Commission's last report on price policy for gram, the cost estimates have become available for Madhya Pradesh and Rajasthan for 1981/82. The cost of production in case of Rajasthan has been estimated at Rs. 192.42 and the yield in the sample is placed at 7.33 quintals per hectare. In case of Madhya Pradesh also the cost of production for 1981/82 has been estimated at Rs. 191.42. The Commission in its earlier reports, has discussed the limitations of relying on cost of production estimates for any single year particularly in the case of crops which display large inter-year variation in yield. The State average yields for 1981/82 were higher in Madhya Pradesh and Rajasthan by 18 and 3 per cent respectively than the average yields for the triennium ending 1981/82 and if cost estimates were adjusted for taking into account this variability, the cost of production would have worked out at obviously higher levels. The Commission in its report on Price Policy for the Kharif Season for 1983/84 has noted the recent encouraging trends of area being reallocated to the pulses crops. In gram a similar shift has been emphasised in this Report in selected States. The important issue therefore is that of sustaining the relative profitability of gram cultivation with respect to competing crops, particularly in those areas where such substitution is taking place and needs to be encouraged further. (Tables 3.5 and 3.6)

3.11 While deciding upon the appropriate level of prices at which a public sector agency may undertake purchases of gram during the ensuing season the Commission has kept in view all the relevant factors including the available information on cost of cultivation. Considering the growing importance of gram in dryland areas especially in Madhya Pradesh and Rajasthan and also given the imperative of expanding pulses production, the Commission recommends that the

minimum support price for gram of fair average quality of 1983/84 crop to be marketed during 1984-85 season be fixed at Rs. 240 per quintal. The Commission would, however, like to emphasise once again the need for strengthening institutional arrangements to provide effective market support through planned and timely purchase operations for sustaining the production incentives in gram and other pulses.

IV. RABI OILSEEDS (RAPESEED/MUSTARD)

Trends in Area/Production/Yield

4.1 Acreage under rapeseed/mustard has expanded significantly in recent years as contrasted to the negative trend in groundnut and sesamum. Between the triennia ending 1969/70 and 1981/82, the crop acreage expanded from 3.1 to 4.0 million hectares with the addition of as much as 5 lakh hectares in the triennia ending 1981/82 over 1978/79. (Table 4.1).

4.2 Between the triennia ending 1969/70 and 1981/82, rapeseed/mustard acreage has been expanding not only in the traditional belt, (viz; Uttar Pradesh 20.5 to 21.8 lakh hectares, Rajasthan 1.7 to 4.5 lakh hectares, Madhya Pradesh 1.6 to 2.2 lakh hectares and Haryana 1.4 to 2.1 lakh hectares) but also in non-traditional areas like Gujarat (0.3 to 1.3 lakh hectares) Assam (1.3 to 2.2 lakh hectares) and Orissa (0.6 to 1.6 lakh hectares), where the progress has been impressive. Even within a traditional rapeseed/mustard producing State such as Rajasthan, the crop is spreading in new areas like Jaipur, Jhunjhunu, Chittor, Pali, Jalore and Kota districts. (Table 4.2)

4.3 Although output expanded from 14.9 to 19.3 lakh tonnes over this period, growth tended to slow down in the later half (between triennia ending 1975/76 and 1981/82) following a productivity decline. Average yield, after increasing from 482 to 562 kg./hectare in the first half, declined subsequently to 486 kg./hectare. Production in the triennia ending 1981/82 stood lower at 19.3 lakh tonnes as compared with 19.6 lakh tonnes in the triennium ending 1975/76, notwithstanding acreage expansion.

4.4 While productivity improved in many States, it declined in Uttar Pradesh, which is the major rapeseed/mustard producing State with a share of 55 per cent of the total area and 46 per cent of total crop output. Between the triennia ending 1969/70 and 1981/82, the average yield in Uttar Pradesh declined from 511 to 427 kg./hectare. Thus, crop output in the State declined (10.5 to 9.3 lakh tonnes) through this period although it increased in other important rapeseed/mustard producing States.

4.5 The all-India area and production of rapeseed/mustard rose to a record 4.3 million hectares and 23.6 lakh tonnes in 1981/82 as compared with 4.1 million hectares and 20.0 lakh tonnes in 1980/81 and the previous record of 3.7 million hectares and 22.5 lakh tonnes respectively in 1974/75. Average yield also improved to 545 kg./hectare from 487 kg./hectare in 1980/81, although this was still lower than that of 612 kg./hectare in 1974/75.

4.6 Preliminary estimates available for 1982/83 indicate an increase of over 6 per cent in rapeseed/mustard area at the all-India level despite fall in Uttar Pradesh (pure crop). Haryana, Punjab and Bihar. According to present indications, the output of rapeseed/mustard during 1982/83 may not be far different from the record 1981/82 level of 23.6 lakh tonnes. The aggregate output of oilseeds during 1982/83 is however, provisionally placed lower at 108 lakh tonnes as against 120.7 lakh tonnes in 1981/82, as a result of a setback to the groundnut crop.

Development Strategy

4.7 Nearly one fifth of the total area under the rapeseed/mustard crop was reported to be irrigated in 1978/79 as against 8 per cent in 1969/70. The emerging trend towards expansion of the irrigated base should be sustained in the interest of yield stability and maximisation. However, the central problem with rapeseed/mustard as in case of other oilseeds and pulses is that of raising the productivity of the predominant rainfed crop from the present low level through suitable dryland technology adapted to different agro-climatic situations. Particularly, the production technology would need to be so oriented as to optimise yield under the mixed cropping system largely in vogue on rapeseed/mustard cultivation, specially in Uttar Pradesh where the mixed crop dominates. Developmental agencies at different levels would need to collaborate and make concerted efforts to remove the existing bottlenecks in the supply of inputs, specially certified seeds of improved cultivars, and other agro-services, for creating an optimum production impact. Considering that rapeseed/mustard has a high oil content (33 per cent versus 28 per cent in groundnut), the Commission recommends that, as in case of groundnut, a national research centre be established to coordinate intensive research activities being conducted in a number of existing projects with a view to speeding up the evolution and dissemination of location-specific high yielding varieties of rapeseed/mustard.

Price Behaviour

4.8 The severe set-back to the groundnut crop and consequently to oilseeds output buoyed up the prices of oilseeds and edible oils during the current season. Rapeseed/mustard and mustard oil prices also moved in sympathy and reflected this buoyancy even during the flush period of the current 1983/84 marketing season. Since April 1983, prices have thus been ruling significantly higher than the corresponding levels in the previous year. The price index stood at 295.4 in case of rapeseed/mustard and 270.1 in case of

mustard oil in July 1983 as compared with 237.1 and 233.9 respectively in July 1982. (Tables 4.3 and 4.4)

4.9 Market prices of rapeseed/mustard during the current season ruled well above the support price of Rs. 355 per quintal announced by the Government. The wholesale prices for July 1983 (with corresponding prices last year in brackets) at selected centres were reported at Kanpur Rs. 545 (Rs. 445) (black variety), Rohtak Rs. 506 (Rs. 415), Gauhati Rs. 490 (Rs. 420), Ganganagar Rs. 500 (Rs. 415) and Rs. 575 (Rs. 480) per quintal at Calcutta. (Table 4.5)

4.10 Mustard oil prices for July 1983 and corresponding July 1982 quotations (in brackets) were Rs. 1385 (Rs. 1200) at Kanpur, Rs. 1750 (Rs. 1531.25) at Calcutta, Rs. 1320 (Rs. 1300) at Moga, Rs. 1450 (Rs. 1238) at Gauhati and Rs. 1481 (Rs. 1250) at Delhi. (Table 4.6)

Market Support

4.11 The persisting acute supply gap in edible oils and the significant price spreads between regions and seasons despite large imports has once again brought to the fore the need for an effective market intervention programme to ensure price stability and equitable distribution. Such market interventions, the Commission has been pointing out, could be undertaken by a public sector agency to serve the interests of both the producer and the ultimate consumer. Even though NAFED has been the agency entrusted with price support operations, it has not undertaken any purchases of rapeseed/mustard under the price support scheme in view of the prevailing high market prices. Commercial purchases of rapeseed, mustard are made by NAFED, but then these are too small (e.g. 13160 tonnes in 1982/83, 3849 tonnes in 1981-82 and 8408 tonnes in 1980/81) to produce an impact on the market. Given the intra-seasonal price fluctuations, efficient

commercial purchases/sales could well become a viable instrument in the hands of public sector agency/State level agencies/Cooperatives for rendering effective market support in the immediate post-harvest period and for moderating the off-seasonal price fluctuations. In this connection, the Commission would like to reiterate its earlier recommendation that the financial institutions support economically viable commercial operations by cooperatives and State level agencies.

4.12 The Commission has in its last report discussed the cost of production estimates for rapeseed and mustard for Haryana for the year 1980-81 and for Assam for the year 1978/79. Estimates have since become available for Rajasthan for 1981/82. The cost of production has been estimated at Rs. 235.65 per quintal for 1981/82. This estimate when adjusted for the subsequent changes in the prices of various farm inputs works out to about Rs. 243 per quintal. The updated estimate for Haryana works out to about Rs. 318 per quintal. (Tables 4.7 and 4.8)

4.13 While deciding upon the appropriate level of prices at which a public sector agency may undertake purchases of rapeseed/mustard during the ensuing season, the Commission has kept in view all the relevant factors including available estimates of cost of production. The Commission recommends that the minimum support price for mustard of fair average quality of 1983/84 crop to be marketed during 1984/85 season be fixed at Rs. 355 per quintal. Prices of other oilseeds belonging to the rapeseed/mustard group be fixed on the basis of their normal price differentials with mustard.

Sd/-

(YOGINDER K. ALAGH)

Sd/-

(M. V. GEORGE)

September 1, 1983

TABLES

TABLE 1.1

Percentage share of Rabi foodgrains in area under and Production of foodgrains

Year	Percentage Area of foodgrains under Rabi	Percentage Production of foodgrains under Rabi
1	2	3
	(Per cent)	(Per cent)
1966-67	32.2	34.1
1967-68	32.9	36.1
1968-69	33.2	36.6
1969-70	33.4	37.3
1970-71	33.8	36.4
1971-72	35.4	40.1
1972-73	34.3	39.6
1973-74	33.5	35.2
1974-75	34.1	40.8
1975-76	35.1	38.9
1976-77	34.7	40.2
1977-78	35.0	38.5
1978-79	35.5	40.1
1979-80	35.5	42.3
1980-81	34.5	40.4
1981-82	35.0	40.5
1982-83 (P)	..	45.9

P : Provisional

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 1.2

Irrigation Area under important Rabi Crops ('000 hectares)

Year	All-India irrigated Area under			
	Wheat	Barley	Gram	Rapeseed/ Mustard
1	2	3	4	5
1967-68	6,471	1,505	1,248	238
1968-69	7,782	1,487	1,265	191
1969-70	8,592	1,410	1,322	244
1970-71	9,924	1,327	1,222	319
1971-72	10,404	1,204	1,191	430
1972-73	10,751	1,197	1,094	409
1973-74	10,747	1,360	1,217	535
1974-75	11,066	1,651	1,236	695
1975-76	12,689	1,524	1,384	489
1976-77	13,669	1,256	1,218	479
1977-78	13,723	1,083	1,165	757
1978-79	14,770	945	1,190	689

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 1.3

Statewise Consumption of Fertilizers during Rabi

('000 tonnes)

State	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5	6	7	8	9	10	11	12
<i>Bihar</i>											
Rabi	64.3	83.2	46.4	71.6	108.0	123.0	133.0	148.7	140.3	158.2	155.4
Percentage Change		29.4	(-)44.2	54.3	50.8	13.9	8.1	11.8	(-)5.6	12.8	(-)1.8
<i>Haryana</i>											
Rabi	58.6	61.6	66.8	49.0	72.2	96.9	133.3	148.1	145.1	155.1	176.1
Percentage Change		5.1	11.7	(-)26.6	47.3	34.3	37.6	11.1	(-)2.1	6.9	13.5
<i>Madhya Pradesh</i>											
Rabi	60.5	85.2	91.8	67.6	79.0	98.2	110.9	135.8	91.0	127.7	137.9
Percentage Change		40.8	7.8	(-)26.4	16.9	24.3	12.9	22.5	(-)35.0	40.8	8.0
<i>Punjab</i>											
Rabi	209.1	236.9	228.0	166.0	228.0	274.3	330.8	415.8	458.9	526.0	875.5
Percentage Change		13.3	(-)3.8	(-)18.4	78.1	20.3	20.5	25.7	10.4	14.6	9.4
<i>Rajasthan</i>											
Rabi	35.2	40.3	47.7	37.4	54.2	70.1	78.3	92.7	103.1	88.6	90.5
Percentage Change		14.5	18.4	(-)21.6	44.9	29.6	11.7	18.4	11.2	(-)14.1	22.1
<i>Uttar Pradesh</i>											
Rabi	314.0	372.7	313.4	254.9	380.0	517.2	625.1	754.8	690.5	814.0	895.5
Percentage Change		18.5	(-)15.8	(-)18.7	41.2	43.7	20.9	20.8	(-)8.5	17.0	10.0

Source : Fertilizer Statistics (Financial Year) The Fertilizer Association of India.

TABLE 1.4

Changes in Prices (Percentage Change over the preceding year)

(Base 1970-71=100)

Commodities	Weight	1976—77		1979—80		1982—83	
		Percentage Increase	% Share in all commodities Increase	Percentage Increase	% Share in all commodities Increase	Percentage Increase	% Share in all commodities Increase
1	2	3	4	5	6	7	8
Rice	51.31	3.6	3.1	15.6	4.8	15.9	15.7
Wheat	34.17	1.1	0.1	8.0	1.6	7.6	5.0
Pulses	21.79	38.3	13.9	14.5	1.9	2.1	0.9
Jute	4.29	22.6	1.6	(-)12.8	(-)0.3	48.8	4.0
Oilseeds	42.01	40.0	28.0	18.6	4.7	9.8	7.9
Agricultural Commodities	404.20	12.6	84.9	7.1	17.1	8.4	65.3
All Commodities	1000.00	6.0	100.0	16.8	100.0	5.2	100.0

Source : Office of the Economic Adviser, Ministry of Industry.

TABLE 1.5

Wheat : Procurement and Distribution Charges

(Rs. per quintal)

Year	Procurement Charges			Distribution Charges		
	Mandi tax Gunny cost & Purchase Tax	Other Charges	Total	Freight, Interest, Transit & Storage losses	Other Charges	Total
1	2	3	4	5	6	7
1974-75	4.96	3.98	8.94	9.67	4.90	14.57
1975-76	11.81	7.69	19.50	11.75	4.79	16.54
1976-77	11.40	6.09	17.49	10.48	4.83	15.31
1977-78	1.76	5.86	17.62	10.09	4.74	14.83
1978-79	11.97	6.85	18.82	20.12	4.96	25.08
1979-80	12.22	6.58	18.80	17.95	4.71	22.66
1980-81	14.54	6.77	21.31	22.04	7.01	29.05
1981-82	14.41	7.91	22.32	28.77	9.10	37.87
1982-83	15.76	7.84	23.60	27.68	8.49	36.17

Source : The Food Corporation of India.

TABLE 1.6
Changes in Farm Harvest Prices

(Rs. per quintal)

State	Triennium ending 1971-72				Triennium ending 1981-82			
	Wheat	Barley	Gram	Rapesed/ Mustard	Wheat	Barley	Gram	Rapesed Mustard
1	2	3	4	5	6	7	8	9
Haryana	83.70 (100.0)	55.00 (65.7)	39.77 (107.3)	147.07 (175.7)	131.16 (100.0)	134.44 (102.5)	382.60 (291.7)	499.92 (381.2)
Madhya Pradesh	83.53 (100.0)	52.33 (62.7)	81.43 (97.5)	150.13 (179.7)	162.14 (100.0)	125.43 (77.4)	304.25 (187.6)	390.97 (241.1)
Punjab	76.67 (100.0)	56.00 (73.0)	92.90 (121.2)	145.70 (190.0)	124.52 (100.0)	110.08 (88.4)	330.21 (265.2)	360.07 (289.2)
Rajasthan	87.30 (100.0)	63.47 (72.7)	85.83 (98.3)	172.40 (197.5)	153.70 (100.0)	126.13 (82.1)	324.07 (210.8)	379.14 (246.7)
Uttar Pradesh	80.00 (100.0)	57.50 (71.9)	80.53 (100.7)	158.30 (197.9)	133.29 (100.0)	114.17 (85.7)	283.47 (212.7)	401.74 (301.4)

NOTE : Figures in the brackets are relative prices with Wheat as 100.

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

TABLE 2.1

Wheat : Area, Production and Yield

Area : '000 hectares
Production : '000 tonnes
Yield : Kgs. per hectare

State	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5	6	7	8	9	10	11	12	13
Bihar												
Area	1,316	1,397	2,509	1,334	1,478	1,815	1,945	1,847	1,806	1,701	1,755	1,744
Production	1,259	2,494	3,136	1,649	2,000	2,297	2,470	2,294	2,502	1,884	2,306	2,569
Yield	957	1,785	1,250	1,236	1,253	1,265	1,270	1,242	1,385	1,108	1,314	1,473
Gujarat												
Area	577	575	371	521	406	686	727	684	620	681	656	704
Production	939	897	548	906	734	1,151	1,972	1,221	1,192	1,215	1,298	1,407
Yield	1,628	1,562	1,475	1,737	1,808	1,677	1,475	1,784	1,924	1,786	1,979	2,000
Haryana												
Area	1,129	1,177	1,270	1,178	1,117	1,226	1,348	1,360	1,482	1,471	1,480	1,562
Production	2,342	2,402	2,231	1,811	1,954	2,428	2,735	2,845	3,398	3,283	3,492	3,682
Yield	2,074	2,041	1,757	1,537	1,749	1,980	2,029	2,092	2,294	2,232	2,359	2,357
Himachal Pradesh												
Area	302	333	315	303	319	332	289	318	329	348	350	354
Production	246	395	333	287	356	403	208	378	398	273	443	430
Yield	815	1,195	1,059	948	1,116	1,214	721	1,188	1,209	786	1,265	1,216

TABLE 2.1—(Concluded)

1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Jammu & Kashmir</i>												
Area . . .	184	180	189	190	191	176	186	190	207	202	198	198
Production . . .	125	168	174	161	194	154	157	186	204	206	204	204
Yield . . .	678	935	923	846	1,013	875	840	979	983	1,021	1,032	1,032
<i>Karnataka</i>												
Area . . .	305	347	299	346	365	407	366	379	389	379	312	312
Production . . .	95	187	109	207	320	281	233	231	264	230	180	230
Yield . . .	310	540	366	599	877	689	638	608	678	606	578	674
<i>Madhya Pradesh</i>												
Area . . .	3,403	3,665	3,277	3,274	2,788	3,360	3,144	3,554	3,778	3,085	3,365	3,293
Production . . .	2,592	3,189	2,285	2,539	2,352	2,751	2,308	3,103	3,523	2,155	3,144	3,274
Yield . . .	762	870	697	776	843	819	734	873	933	698	934	994
<i>Maharashtra</i>												
Area . . .	882	1,009	691	923	942	1,183	1,188	1,215	1,187	1,164	1,079	1,123
Production . . .	451	503	249	514	776	1,260	938	962	951	1,006	931	989
Yield . . .	511	498	360	557	824	1,065	789	792	802	864	863	876
<i>Punjab</i>												
Area . . .	2,299	2,335	2,404	2,338	2,213	2,439	2,579	2,617	2,736	2,823	2,812	2,917
Production . . .	5,145	5,681	5,368	5,181	5,300	5,788	6,272	6,642	7,423	7,896	7,677	8,553
Yield . . .	2,238	2,406	2,233	2,216	2,395	2,373	2,432	2,538	2,713	2,797	2,730	2,932
<i>Rajasthan</i>												
Area . . .	1,478	1,514	1,399	1,673	1,421	1,762	1,799	1,833	1,991	2,073	1,635	1,773
Production . . .	1,951	1,889	1,754	1,791	1,819	2,290	2,301	2,610	2,874	2,701	2,394	2,942
Yield . . .	1,320	1,248	1,253	1,070	1,280	1,300	1,279	1,424	1,444	1,303	1,464	1,660
<i>Uttar Pradesh</i>												
Area . . .	5,907	6,046	6,135	6,009	6,152	5,302	6,624	6,760	7,391	7,532	8,112	7,849
Production . . .	7,690	7,550	7,515	5,879	7,176	8,553	8,940	9,884	11,458	9,895	13,385	12,883
Yield . . .	1,302	1,249	1,225	978	1,166	1,357	1,350	1,462	1,550	1,314	1,650	1,641
<i>West Bengal</i>												
Area . . .	360	422	368	330	422	565	515	484	521	506	283	213
Production . . .	868	921	688	630	837	1,187	1,051	1,037	998	768	473	302
Yield . . .	2,410	2,181	1,869	1,908	1,984	2,101	2,040	2,140	1,916	1,518	1,672	1,417
<i>All-India</i>												
Area . . .	18,241	19,139	19,464	18,583	18,010	20,454	20,922	21,546	22,641	22,178	22,279	22,308
Production . . .	23,832	26,410	24,735	21,778	24,104	28,846	29,010	31,749	35,508	31,830	36,313	37,833
Yield . . .	1,307	1,380	1,271	1,172	1,338	1,410	1,387	1,480	1,568	1,436	1,630	1,696

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

TABLE 2.2
Wheat : Procurement

(*000 tonnes)

State	Marketing Season (April to March)												
	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Bihar	13	2	50	2	51	101	11	29	88	9	13	16	16
Gujarat	53	1	..	21	17	137	..	..	..	..	..	..	..
Haryana	709	818	586	249	433	907	908	933	1,389	1,002	1,121	1,262	1,400
Jammu & Kashmir	16	27	19	7	19	15	8	13	22	29	20	20	19
Madhya Pradesh	50	65	192	124	138	274	11	19	100	..	167	68	52
Maharashtra . . . . .	..	..	11	20	55	21	6	..	..	..	..	..	..
Punjab	2,936	3,179	2,707	1,083	2,361	2,942	3,234	3,206	4,193	4,277	3,763	4,825	5,158
Rajasthan	154	46	146	127	185	474	123	77	301	17	10	135	178
Uttar Pradesh	1,145	843	816	319	790	1,711	853	1,164	1,883	522	1,496	1,380	1,418
All-India	5,101	5,006	4,531	1,955	4,049	6,602	5,165	5,478	7,992	5,861	6,590	7,720	8,241

* : Provisional.

Source : Department of Food, Ministry of Agriculture.

TABLE 2.3
Month-end Stocks of Foodgrains

('000 tonnes)

Month	1980				1981				1982				1983*			
	Rice	Wheat	Others	Total	Rice	Wheat	Others	Total	Rice	Wheat	Others	Total	Rice	Wheat	Others	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
January	9,055	7,342	125	16,522	7,010	4,299	105	11,414	6,518	4,800	127	11,445	5,569	6,681	215	12,465
February	8,922	6,306	132	15,360	7,042	3,736	103	11,881	6,608	4,599	147	11,354	5,609	6,093	228	11,930
March	8,404	5,234	146	13,784	6,645	3,053	111	9,809	6,308	5,442	167	10,917	5,621	5,554	215	11,390
April	8,016	5,506	154	13,676	6,205	3,454	121	9,780	6,030	4,209	176	10,415	4,807	5,462	202	10,471
May	7,594	9,074	151	16,822	6,234	7,145	116	13,495	5,667	8,153	183	14,003	4,447	11,137	201	15,785
June	7,062	8,882	139	16,083	5,794	7,713	103	13,610	5,097	10,129	195	15,421	3,845	12,343	193	16,381
July	6,478	8,125	120	14,723	5,265	7,217	81	12,563	4,517	9,854	184	14,555	3,085	12,768	152	16,005
August	5,824	7,374	107	13,305	4,573	6,658	59	11,287	3,776	9,149	171	13,096	..	..	..	..
September	5,373	6,981	98	12,452	3,884	6,155	47	10,089	3,099	8,669	168	11,936	..	..	..	..
October	5,437	6,058	98	11,593	4,106	5,734	56	9,896	3,255	8,103	161	11,519	..	..	..	..
November	6,302	5,530	107	11,939	5,045	5,306	77	10,428	4,248	7,687	138	12,073	..	..	..	..
December	6,576	4,980	113	11,669	6,124	5,104	116	11,344	5,320	7,145	146	12,611	..	..	..	..

* Provisional.

Source : Department of Food, Ministry of Agriculture.

TABLE 2.4
Public Distribution of Foodgrains

('000 tonnes)

Month	1980				1981				1982				1983*			
	Rice	Wheat	Others	Total	Rice	Wheat	Others	Total	Rice	Wheat	Others	Total	Rice	Wheat	Others	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
January	377	762		1,143	339	532	21	892	48	600	12	1,160	600	70	17	147
February	380	871		1,256	393	479	14	886	54	593	6	1,153	624	34	20	478
March	433	721		1,159	489	574	10	1,073	19	651	5	1,275	674	23	22	569
April	393	560	5	958	468	451	19	938	5	555	9	1,129	709	703	16	1,428
May	461	629	6	1,096	453	517	14	984	18	547	6	1,171	703	566	22	1,291
June	456	599	12	1,067	510	507	19	1,036	11	541	10	1,162	667	569	24	1,260
July	481	720	16	1,217	612	578	26	1,216	28	643	16	1,337	677	620	33	1,330
August	460	644	15	1,119	635	555	21	1,211	05	519	13	1,237				
September	445	608	9	1,062	653	569	18	1,240	20	578	6	1,304				
October	411	580	9	1,000	558	540	4	1,102	625	579	8	1,212				
November	337	509	11	857	526	537	11	1,074	588	626	4	1,218				
December	391	564	20	975	521	559	8	1,088	606	728	2	1,336				
Total	5,025	7,767	117	12,909	6,157	6,398	185	12,740	7,437	7,160	97	14,694				
N.R.E.P.	1,032	1,052		2,084	244	29		273	77	16		93				
Grand Total	6,057	8,819	117	14,993	6,402	6,427	185	13,014	7,514	7,176	97	14,787				

*—Provisional

Source : Department of Food, Ministry of Agriculture.

TABLE 2.5

Wheat : Index Numbers of Wholesale Prices

(Base : 1970-71=100)

Month	1975	1976	1977	1978	1979	1980	1981	1982	1983
1	2	3	4	5	6	7	8	9	10
January	198.3	159.5	161.6	165.9	161.1	168.8	198.2	197.6	233.5
February	197.3	157.1	163.2	164.9	161.5	169.8	197.8	200.4	248.1
March	190.8	152.7	161.1	163.7	161.0	167.1	186.0	202.6	247.7
April	171.8	151.7	151.6	154.3	154.4	159.0	186.2	201.3	225.7
May	164.6	144.4	148.4	148.5	150.4	162.2	183.7	186.7	210.4
June	164.0	145.8	149.9	148.2	150.4	165.3	183.3	190.0	210.5
July	160.4	148.2	152.2	149.2	153.1	166.0	187.0	195.8	213.1
August	159.3	148.7	152.4	149.8	155.2	164.6	189.3	208.3	..
September	158.1	147.5	152.7	150.5	159.4	168.4	189.8	210.2	..
October	155.5	147.5	153.3	151.5	161.5	173.6	192.6	212.4	..
November	155.0	150.1	156.8	152.8	166.2	183.7	192.8	215.8	..
December	157.8	153.8	166.2	157.8	171.8	190.2	193.5	219.0	..

Source : Office of the Economic Adviser Ministry of Industry.

Wheat : Month-end Wholesale Prices

(Rs. per quintal)

State/Centre	Variety	Year	April	May	June	July	August	September	October	November	December	January	February	March
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Bihar</i>														
Patna.	White	1978-79	125.00	119.00	126.50	126.50	126.50	130.00	150.00	145.00	148.00	155.00	168.00	140.00
		1979-80	120.00	120.00	135.00	120.00	145.00	160.00	160.00	162.00	160.00	165.00	165.00	160.00
		1980-81	140.00	152.00	160.00	160.00	160.00	170.00	180.00	180.00	176.00	215.00	205.00	200.00
		1981-82	155.00	165.00	170.00	190.00	208.00	205.00	210.00	200.00	200.00	205.00	215.00	215.00
		1982-83	190.00	200.00	215.00	240.00	245.00	240.00	..	224.00	230.00	245.00	250.00	225.00
		1983-84	230.00	240.00	240.00	..	..	..	..	..	..	..	..	..
Arrah	White	1978-79	113.00	107.00	113.00	121.00	123.00	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
		1979-80	N.A.	N.A.	N.A.	N.A.	134.00	131.00	N.A.	N.A.	N.A.	171.00	171.00	155.00
		1980-81	161.00	155.00	158.00	155.00	159.00	N.A.	N.A.	178.00	180.00	201.00	218.00	180.00
		1981-82	155.00	160.00	N.A.	152.00	190.00	198.00	198.00	208.00	208.00	210.00	214.00	216.00
		1982-83	220.00	180.00	208.00	220.00	230.00	250.00	245.00	260.00	250.00	302.00	312.00	290.00
		1983-84	230.00	245.00	264.00	230.00	..	..	..	..	..	..	..	..
<i>Gujarat</i>														
Rajkot	White	1978-79	142.00	136.35	138.75	132.50	128.25	132.50	138.25	140.00	144.00	139.00	141.85	138.10
		1979-80	135.10	126.75	133.25	143.00	142.50	141.25	144.50	185.00	180.00	165.00	153.50	142.50
		1980-81	150.50	148.50	147.00	155.00	145.00	147.50	163.95	150.75	166.25	168.00	165.00	160.35
		1981-82	180.85	172.50	176.50	188.75	185.00	179.00	188.10	201.85	203.75	212.35	170.50	175.35
		1982-83	177.35	178.00	178.75	206.25	218.25	205.00	222.50	246.75	234.50	245.00	208.50	208.75
		1983-84	230.00	229.00	237.50	..	..	..	..	..	..	..	..	..
<i>Haryana</i>														
Karnal	Dara	1978-79	112.50	112.50	112.50	108.50	111.00	111.90	119.00	119.00	124.00	125.70	126.00	123.00
		1979-80	115.00	115.00	115.00	114.00	107.50	117.00	120.00	134.00	132.00	130.00	135.00	129.00
		1980-81	117.00	117.00	117.00	120.00	117.00	126.00	130.00	150.00	148.00	155.00	155.00	140.00
		1981-82	130.00	130.00	130.00	140.00	145.00	150.00	155.00	155.00	155.00	155.00	155.00	170.00
		1982-83	142.00	142.00	142.00	175.00	176.00	174.00	172.00	170.00	176.00	193.00	198.00	200.00
		1983-84	151.00	151.00	158.00	170.00	..	..	..	..	..	..	..	..

TABLE 2.6 (Continued)

(Rs. per quintal)

State/Centre	Variety	Year	April	May	June	July	August	September	October	November	December	January	February	March	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
<i>Karnataka</i>															
Bangalore	Bansi	1978-79	185.00	190.00	185.00	185.00	178.00	178.00	180.00	175.00	175.00	180.00	180.00	185.00	
		1979-80	170.00	180.00	190.00	190.00	180.00	180.00	177.00	200.00	190.00	225.00	220.00	225.00	
		1980-81	190.00	200.00	200.00	204.00	205.00	195.00	200.00	220.00	215.00	210.00	240.00	210.00	
		1981-82	235.00	225.00	230.00	247.00	250.00	236.00	235.00	240.00	240.00	253.00	250.00	240.00	
		1982-83	220.00	220.00	223.00	250.00	265.00	260.00	260.00	300.00	309.00	290.00	290.00	260.00	
		1983-84	285.00	278.00	285.00	295.00	..	..	..	..	..	..	..	..
<i>Madhya Pradesh</i>															
Indore	Pissi	1978-79	135.00	133.00	132.00	142.00	135.00	135.00	135.00	135.00	135.00	135.00	146.00	145.00	125.00
		1979-80	150.00	145.00	130.00	148.00	155.00	160.00	163.00	155.00	150.00	155.00	150.00	162.00	
		1980-81	163.00	170.00	176.00	175.00	165.00	190.00	185.00	185.00	185.00	210.00	200.00	180.00	
		1981-82	190.00	190.00	200.00	200.00	200.00	195.00	195.00	185.00	190.00	210.00	215.00	185.00	
		1982-83	170.00	160.00	185.00	195.00	197.00	200.00	195.00	215.00	225.00	220.00	230.00	195.00	
		1983-84	205.00	205.00	200.00	..	..	..	..	..	..	..	..	..
<i>Maharashtra</i>															
Aurangabad	Bansi	1978-79	140.00	137.00	140.00	140.00	135.00	150.00	145.00	145.00	145.00	150.00	147.00	142.00	
		1979-80	140.00	145.00	147.00	158.00	138.00	155.00	163.00	183.00	197.00	183.00	163.00	145.00	
		1980-81	160.00	165.00	162.00	169.00	170.00	170.00	175.00	210.00	210.00	207.00	207.00	190.00	
		1981-82	215.00	200.00	205.00	215.00	217.00	215.00	210.00	215.00	218.00	225.00	218.00	190.00	
		1982-83	195.00	205.00	207.00	230.00	247.00	247.00	245.00	257.00	277.00	277.00	285.00	235.00	
		1983-84	260.00	260.00	265.00	280.00	..	..	..	..	..	..	..	..
Amravati	Bansi	1978-79	150.00	142.00	130.00	135.00	135.00	137.00	139.00	148.00	160.00	146.00	148.00	140.00	
		1979-80	138.00	149.00	145.00	143.00	160.00	153.00	146.00	163.00	170.00	152.00	155.00	155.00	
		1980-81	165.00	165.00	160.00	159.00	158.00	166.00	166.00	185.00	195.00	193.00	183.00	188.00	
		1981-82	213.00	203.00	210.00	213.00	218.00	215.00	205.00	209.00	N.A.	233.00	225.00	213.00	
		1982-83	215.00	220.00	175.00	183.00	218.00	193.00	208.00	202.00	220.00	210.00	215.00	210.00	
		1983-84	240.00	248.00	230.00	240.00	235.00	..	..	..	..	..	..	..

TABLE 2.6 (Continued)

(Rs. per quintal)

State/Centre	Variety	Year	April	May	June	July	August	September	October	November	December	January	February	March
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Punjab														
Amristar	Dara	1978-79	112.50	112.50	118.00	116.00	119.00	128.00	127.00	136.00	137.00	132.00	134.00	131.00
		1979-80	117.00	115.00	117.00	117.00	118.00	126.00	128.00	136.00	136.00	137.00	135.00	130.00
		1980-81	117.00	117.00	120.00	119.00	119.00	133.00	132.00	152.00	145.00	156.00	154.00	144.00
		1981-82	132.00	130.00	132.00	145.00	142.00	150.00	160.00	164.00	160.00	165.00	164.00	162.00
		1982-83	150.00	142.00	142.00	146.00	156.00	155.00	170.00	175.00	178.00	183.00	184.00	185.00
		1983-84	154.00	151.00	151.00	..	..	..	..	..	..	..	..	..
Rajasthan														
Ganganagar	Kalyan	1978-79	128.00	114.00	120.00	125.55	127.50	128.00	132.00	128.00	N.A.	130.60	134.00	142.00
		1979-80	131.00	123.00	120.00	118.50	125.00	126.50	122.80	125.00	144.00	150.00	157.05	146.25
		1980-81	N.A.	160.00	158.00	155.00	157.00	148.00	N.A.	N.A.	N.A.	159.00	156.00	153.00
		1981-82	161.00	162.00	170.00	185.00	185.00	200.00	200.00	200.00	N.A.	200.00	215.00	195.00
		1982-83	185.00	170.00	230.00	220.00	210.00	210.00	..	..	..	210.00	210.00	200.00
		1983-84	208.00	195.00	200.00	200.00	..	..	..	..	..	..	..	..
Uttar Pradesh														
Hapur	Mexican	1978-79	112.50	118.00	115.00	114.00	120.00	123.00	132.00	132.00	132.00	135.00	135.00	132.00
		1979-80	112.50	115.00	118.00	116.00	116.00	120.00	120.00	N.A.	N.A.	135.00	138.00	132.00
		1980-81	118.00	118.00	118.00	118.00	122.00	126.00	135.00	160.00	160.00	185.00	158.00	N.A.
		1981-82	135.00	135.00	135.00	150.00	150.00	155.00	155.00	155.00	N.A.	165.00	165.00	175.00
		1982-83	150.00	152.00	175.00	166.00	180.00	180.00	185.00	185.00	195.00	245.00	240.00	242.00
		1983-84	170.00	163.00	165.00	165.00	157.00	..	..	..	..	..	..	..
Kanpur														
Kanpur	White	1978-79	110.00	115.00	115.00	115.00	118.00	116.00	115.00	112.00	118.00	128.00	122.00	120.00
		1979-80	112.00	111.00	110.55	110.45	N.A.	125.00	142.00	145.00	135.00	150.00	160.00	148.00
		1980-81	130.00	137.00	135.00	142.00	140.00	145.00	150.00	180.00	178.00	200.00	175.00	170.00
		1981-82	148.00	140.00	145.00	150.00	142.00	155.00	153.00	150.00	148.00	158.00	158.00	165.00
		1982-83	153.00	155.00	152.00	175.00	175.00	180.00	180.00	195.00	200.00	250.00	256.00	265.00
		1983-84	175.00	165.00	165.00	164.00	..	..	..	..	..	..	..	..

TABLE No. 2.6 (Concluded)

(Rs. per quintal)

State/Centre	Variety	Year	Apr	May	June	July	August	September	October	November	December	January	February	March	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Uttar Pradesh															
Baharanch	White	1978-79	113.00	100.00	108.00	122.00	142.00	115.00	114.00	114.00	113.00	114.00	116.00	114.00	
		1979-80	108.00	113.00	113.00	110.00	108.00	120.00	122.00	125.00	135.00	125.00	146.00	135.00	
		1980-81	120.00	128.00	130.00	130.00	125.00	135.00	146.00	146.00	165.00	185.00	175.00	156.00	
		1981-82	130.00	130.00	130.00	130.00	136.00	130.00	143.00	146.00	146.00	160.00	143.00	140.00	
		1982-83	145.00	142.00	144.00	142.00	160.00	160.00	165.00	170.00	195.00	237.00	245.00	245.00	
		1983-84	152.00	..	158.00	..	..	..	..	..	..	..	..	..
Chandauli	White	1978-79	112.50	112.50	112.50	112.50	113.00	116.00	116.00	114.00	N.A.	130.00	125.00	128.00	
		1979-80	115.00	115.00	115.00	115.00	115.00	115.00	115.00	115.00	N.A.	N.A.	125.00	120.00	120.00
		1980-81	117.00	117.00	119.00	121.00	120.00	122.00	N.A.	N.A.	N.A.	180.00	154.00	148.00	
		1981-82	130.00	130.00	131.00	130.00	130.00	140.00	148.00	145.00	N.A.	155.00	152.00	152.00	
		1982-83	142.00	142.00	142.00	142.00	145.00	152.00	152.00	155.00	155.00	240.00	245.00	240.00	
		1983-84	156.00	151.00	151.00	152.00	151.00	..	..	..	..	..	..	..
Delhi															
Delhi	Dara	1978-79	114.00	115.00	117.00	118.00	121.00	123.00	126.00	127.00	131.00	134.00	132.00	131.00	
		1979-80	116.00	116.00	115.00	120.00	123.00	131.00	132.00	N.A.	139.00	138.00	140.00	127.00	
		1980-81	123.00	129.00	131.00	131.00	130.00	140.00	150.00	167.00	167.00	171.00	152.00	152.00	
		1981-82	148.00	145.00	150.00	165.00	155.00	164.00	160.00	163.00	N.A.	170.00	173.00	181.00	
		1982-83	153.00	162.00	155.00	170.00	175.00	172.00	182.00	186.00	187.00	208.00	204.00	198.00	
		1983-84	175.00	166.00	168.00	178.00	..	..	..	..	..	..	..	..

N.A. : Not Available.

TABLE 2.7

Wheat : Cost of Production at Constant Prices in Punjab

Year	Yield per hectare in Quintals	Operational cost per quintal at Constant Prices
1	2	3
1970-71	24.40	39.70
1971-72	26.43	41.16
1972-73	22.56	41.24
1973-74	24.87	42.26
1974-75	27.00	31.98
1975-76	23.11	40.80
1976-77	22.74	43.63
1977-78	22.61	45.99
1978-79	27.49	38.34
1979-80	27.91	37.99
1980-81	25.20	37.04

NOTE : Cost estimates at Constant Prices are obtained by evaluating the quantities of different inputs at 1971-72 Prices.

TABLE 2.8A

Wheat : Estimates of Cost of Cultivation Production and related Data for 1981-82

Items	Haryana	Madhya Pradesh	Punjab
1	2	3	4
Cost of cultivation per hectare (Rs.)			
A ¹	1991.94	1037.02	2204.07
A ²	2004.13	1037.02	2390.94
B ¹	2351.70	1220.54	2530.74
B ²	3121.65	1858.52	3529.89
C ¹	2755.42	1365.88	2777.04
C ²	3526.36	2003.85	3776.19
Cost of Production per quintal (Rs.)			
A ¹	69.36	71.33	69.37
A ²	69.78	71.33	75.19
B ¹	81.74	83.44	79.74
B ²	108.52	123.10	111.05
C ¹	95.54	93.01	87.46
C ²	122.32	132.67	118.77
Material and labour Inputs used per hectare			
Seeds (kgs.)	110.14	109.46	92.90
Fertiliser (Kgs. in terms of nutrients).	90.06	28.21	153.05
Manure (Quintals)	0.13	0.29	7.23
Human labour (Man hours).	407.54	362.39	383.92
Bullock labour (pair hours).	67.68	131.24	31.49

NOTES : 1. The Estimates are provisional.

2. Cost A² . All actual expenses in cash and kind incurred in production by owner-operator.

Cost A² . Cost A¹ + rent paid for leased in-land.

Cost B¹ . Cost A¹ + interest on value of owned capital assets, (excluding land).

Cost B² . Cost B¹ + rental value of owned land (net of land revenue) and rent paid for leased in land.

Cost C¹ . Cost B¹ + imputed value of family labour.

Cost C² . Cost B² + imputed value of family labour.

Source : Directorate of Economics and Statistics Ministry of Agriculture.

TABLE 2.8B

Wheat : Break-up of Cost of Cultivation per hectare for 1981-82

(In Rs.)

Cost Items	Haryana	Madhya Pradesh	Punjab
1	2	3	4
Operational cost	2321.93	1096.02	2382.53
Human labour			
Casual	180.75	123.24	265.70
Attached	46.95	25.42	78.61
Family	403.71	145.33	246.30
Total	631.41	293.99	590.61
Bullock labour			
Hired	1.96	7.44	0.04
Owned	285.41	237.25	135.42
Total	287.37	244.69	135.46
Machine labour			
Hired	201.27	35.22	148.94
Owned	145.39	11.55	325.30
Total	346.66	46.77	474.24
Seed	234.44	209.99	168.16
Fertilizer and Manure			
Fertilizer	465.06	162.77	820.03
Manure	0.56	1.43	10.53
Total	465.62	164.20	830.56
Insecticides	7.84	0.15	22.51
Irrigation charges	290.46	107.41	88.13
Miscellaneous costs	..	..	8.13
Inte rest on working capital.	58.13	28.81	64.73
Fixed Cost	1203.43	907.83	1393.66
Rental value of owned land.	757.75	637.97	812.28
Rent paid for leased-in land.	12.19	..	186.87
Land revenue, cesses and taxes.	10.45	6.32	3.15
Depreciation on implements and farm buildings.	63.28	80.02	64.69
Interest on fixed capital	359.76	183.93	326.67
TOTAL COST	3525.36	2003.85	3776.19

TABLE 2.9

Barley : Area, Production and Yield

Area : '000 hectares
 Production : '000 tonnes
 Yield : Kgs. per hectare

State	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5	6	7	8	9	10	11	12	13
Bihar												
Area	254	235	219	200	192	176	149	142	137	116	120	120
Production	164	156	120	107	124	109	89	89	97	69	89	89
Yield	644	664	551	535	644	617	596	630	713	596	740	740
Haryana												
Area	107	91	144	154	226	177	103	97	90	81	135	123
Production	123	115	149	137	240	221	126	127	143	98	205	158
Yield	1,150	1,264	1,035	888	1,061	1,248	1,223	1,309	1,587	1,210	1,519	1,285
Himachal Pradesh												
Area	39	40	41	39	40	41	35	37	36	36	36	35
Production	35	65	50	40	44	56	32	47	43	33	50	41
Yield	893	1,652	1,241	1,033	1,095	1,386	919	1,276	1,176	930	1,416	1,147
Madhya Pradesh												
Area	157	173	180	191	211	204	159	177	186	219	198	194
Production	152	173	161	163	203	213	121	198	209	89	236	174
Yield	969	1,002	894	854	961	1,044	761	1,118	1,119	407	1,194	894
Punjab												
Area	57	48	56	110	189	..	64	49	38	49	65	87
Production	57	55	59	94	218	152	77	68	54	76	108	174
Yield	1,007	1,136	1,059	857	1,153	1,265	1,203	1,388	1,421	1,551	1,662	2,000
Rajasthan												
Area	523	445	434	591	713	803	590	468	406	423	410	450
Production	764	575	489	596	883	1,006	685	657	547	489	521	583
Yield	1,459	1,293	1,129	1,009	1,238	1,252	1,161	1,403	1,346	1,154	1,270	1,296
Uttar Pradesh												
Area	1,323	1,312	1,288	1,268	1,232	1,202	1,075	963	869	786	779	681
Production	1,431	1,360	1,300	1,166	1,366	1,374	1,168	1,070	1,001	720	1,033	748
Yield	1,081	1,036	1,009	920	1,109	1,143	1,086	1,111	1,152	915	1,325	1,099
West Bengal												
Area	62	81	63	66	50	48	38	37	36	31	35	31
Production	42	61	36	47	36	41	27	34	28	30	31	26
Yield	683	747	571	712	712	853	707	896	789	952	881	842
All-India												
Area	2,555	2,455	2,449	2,650	2,885	2,802	2,241	2,001	1,828	1,771	1,807	1,750
Production	2,784	2,577	2,379	2,371	3,135	3,192	2,344	2,311	2,142	1,624	2,293	2,012
Yield	1,090	1,050	971	895	1,087	1,139	1,046	1,155	1,172	917	1,269	1,150

TABLE 2.10

Barley : Index Numbers of Wholesale Prices

(Base : 1970-71 = 100)

Month	1975	1976	1977	1978	1979	1980	1981	1982	1983
1	2	3	4	5	6	7	8	9	10
January	266.3	122.2	144.2	211.2	156.5	203.6	236.8	220.3	284.3
February	255.2	118.5	151.2	208.6	147.0	212.3	257.0	224.2	307.4
March	243.9	107.4	152.2	207.5	143.8	212.9	250.0	229.3	289.5
April	204.9	109.9	138.2	166.3	138.4	189.6	224.1	220.0	244.3
May	185.3	105.2	156.9	151.8	139.4	201.5	232.7	224.6	249.2
June	174.0	109.0	163.8	160.7	139.4	202.3	223.5	224.6	258.4
July	160.3	121.8	158.7	163.4	142.5	211.4	227.0	222.8	258.5
August	161.4	119.1	162.8	152.7	153.2	219.9	229.5	230.1	..
September	153.8	120.6	170.7	152.6	165.0	211.6	227.4	237.7	..
October	135.8	113.5	184.8	150.5	171.2	212.2	225.4	244.8	..
November	125.6	121.0	188.6	160.1	179.3	225.5	225.8	251.9	..
December	119.4	132.5	200.0	158.8	193.5	237.9	223.8	264.9	..

Source : Office of the Economic Adviser, Ministry of Industry.

TABLE 2.11

Barley : Month-end Wholesale Prices

(Rs. per quintal)

State/Centre	Variety	Year	April	May	June	July	August	September	October	November	December	January	February	March
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Bihar														
Motihari	Local	1980-81	105.00	80.00	80.00	115.00	125.00	112.00	98.00	126.00	150.00	112.00	140.00	145.00
		1981-82	122.00	105.00	112.00	118.00	120.00	130.00	130.00	140.00	145.00	145.00	..	..
		1982-83	..	115.00	130.00	125.00	130.00	130.00	145.00	145.00	..	..	145.00	135.00
		1983-84	135.00	128.00	128.00	125.00	..	..	..	..	..	..	..	..
Haryana														
Rewari	Local	1980-81	145.00	155.00	145.00	155.00	155.00	145.00	155.00	142.00	145.00	140.00	129.00	137.00
		1981-82	129.00	128.00	125.00	120.00	120.00	123.00	121.00	117.00	..	110.00	..	..
		1982-83	..	123.00	..	108.00	..	132.90	128.00	141.00	181.00	163.00	..	150.00
		1983-84	145.00	169.00	181.00	..	..	..	..	..	..	..	..	..
Rohtak	Local	1980-81	110.00	120.00	120.00	120.00	115.00	117.00	127.00	132.00	134.00	137.00	138.00	133.00
		1981-82	133.00	114.00	107.00	110.00	109.00	108.00	105.00	106.00	105.00	105.00	105.00	110.00
		1982-83	106.00	95.00	100.00	95.00	114.00	102.00	108.00	..	..	..	..	..
		1983-84	160.00	122.00	135.00	125.00	..	..	..	..	..	..	..	..
Punjab														
Abohar	Local	1980-81	109.00	115.00	124.00	122.00	111.00	114.00	111.00	117.00	133.00	146.00	118.00	107.00
		1981-82	114.00	113.00	107.00	110.00	108.00	108.00	101.00	96.00	105.00	108.00	105.00	105.00
		1982-83	89.00	98.00	85.00	86.00	117.00	92.00	110.00	126.00	122.00	121.00	130.00	131.00
		1983-84	127.00	125.00	126.00	121.00	..	..	..	..	..	..	..	..
Bhatinda	Local	1980-81	105.00	120.00	110.00	115.00	..	N.A.	..	109.00	129.00	..	..	..
		1981-82	114.00	105.00	107.00	109.00	109.00	104.00	98.00	N.A.	N.A.	..	..	..
		1982-83	85.00	95.00	80.00	90.00	104.00	92.00	107.00	116.00	125.00	127.00	134.00	119.00
		1983-84	105.00	116.00	117.00	120.00	..	..	..	..	..	..	..	..

TABLE 2.11 (Concluded)

(Rs. per quintal)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Rajasthan														
Jaipur	Local	1980-81	118·00	132·00	134·00	132·00	130·00	130·00	128·00	128·00	136·00	137·00	136·00	133·00
		1981-82	126·00	137·00	140·00	135·00	135·00	136·00	136·00	133·00	133·00	131·00	132·00	134·00
		1982-83	112·00	128·00	140·00	142·00	134·00	133·00	134·00	138·00	140·00	150·00	160·00	154·00
		1983-84	135·00	154·00	161·00	160·00	..	..	..	..	..	..	..	..
Uttar Pradesh														
Hathras	Local	1980-81	108·00	112·00	119·00	123·00	119·00	119·00	130·00	135·00	140·00	145·00	140·00	123·00
		1981-82	119·00	118·00	112·00	112·00	110·00	112·00	115·00	105·00	110·00	110·00	116·00	124·00
		1982-83	102·00	110·00	95·00	105·00	118·00	116·00	128·00	131·00	142·00	155·00	162·00	160·00
		1983-84	125·00	125·00	125·00	..	..	..	..	..	..	..	..	..
Varanasi	Local	1980-81	114·00	130·00	128·00	125·00	120·00	130·00	155·00	140·00	145·00	160·00	155·00	125·00
		1981-82	120·00	120·00	120·00	120·00	115·00	110·00	115·00	105·00	105·00	115·00	120·00	125·00
		1982-83	125·00	130·00	..	120·00	125·00	135·00	150·00	150·00	165·00	180·00	180·00	185·00
		1983-84	140·00	140·00	140·00	155·00	..	..	..	..	..	..	..	..
Delhi														
Delhi	Local	1980-81	120·00	119·00	130·00	128·00	120·00	130·00	140·00	145·00	133·00	133·00	124·00	126·00
		1981-82	130·00	127·00	125·00	120·00	121·00	122·00	120·00	113·00	117·00	125·00	122·00	123·00
		1982-83	108·00	120·00	105·00	118·00	125·00	116·00	125·00	140·00	140·00	162·00	157·00	160·00
		1983-84	135·00	150·00	140·00	148·00	..	..	..	..	..	..	..	..

N.A. : Not Available.

TABLE 3.1
Pulses : Area, Production and Yield—All-India

Area : '000 hectares
Production : '000 tonnes
Yield : Kgs. per hectare

Pulses	Triennium ending 1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	Triennium ending 1981-82
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Gram</i>														
Area	7,704	7,839	7,912	6,967	7,761	7,041	8,320	7,974	7,974	7,708	6,985	6,584	7,823	7,131
Production	5,275	5,199	5,081	4,537	4,099	4,015	5,879	5,424	5,410	5,739	3,356	4,328	4,567	4,084
Yield	685	663	642	651	528	570	707	680	678	745	481	657	584	573
<i>Lur</i>														
Area	2,621	2,655	2,346	2,424	2,646	2,529	2,671	2,566	2,626	2,635	2,731	2,842	2,982	2,852
Production	1,800	1,883	1,683	1,928	1,409	1,834	2,099	1,725	1,930	1,887	1,757	1,957	2,240	1,985
Yield	687	709	718	795	532	725	786	672	735	716	643	689	751	696
<i>Moong</i>														
Area	1,844	2,165	2,030	2,053	2,383	2,296	2,517	2,404	2,437	2,547	2,594	2,843	2,848	2,762
Production	511	729	617	540	797	652	798	797	870	876	698	979	1,073	917
Yield	277	337	304	263	335	284	317	331	357	344	269	344	377	332
<i>Urud</i>														
Area	1,469	1,957	1,889	1,970	2,373	2,169	2,161	2,074	2,172	2,274	2,719	2,830	2,923	2,824
Production	464	588	560	593	745	671	757	693	747	726	756	959	1,066	927
Yield	316	300	296	302	314	309	350	334	344	320	278	339	365	328
<i>Other Pulses</i>														
Area	8,341	7,918	7,974	7,501	8,264	7,989	8,785	7,965	8,288	8,493	7,230	7,338	7,295	7,288
Production	3,354	3,419	3,153	2,309	2,958	2,842	3,506	2,722	3,016	2,955	2,004	2,404	2,405	2,271
Yield	402	431	395	307	357	355	399	341	363	348	277	328	330	312
<i>Pulses</i>														
Area	21,979	22,534	22,151	20,915	23,427	22,024	24,454	22,983	23,497	23,657	22,259	22,457	23,871	22,862
Production	11,404	11,818	11,904	9,907	10,008	10,014	13,039	11,361	11,973	12,183	8,572	10,627	11,351	10,183
Yield	518	524	501	474	427	455	533	494	510	515	385	473	476	445

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

TABLE 3.2
Gram : Area, Production and Yield

Area : '000 hectares
Production : '000 tonnes
Yield : Kgs. per hectare

State	Triennium ending 1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	Triennium ending 1981-82
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Andhra Pradesh														
Area	79	73	66	70	59	68	88	77	63	57	54	46	46	49
Production	20	25	25	19	20	28	37	24	21	16	19	14	14	16
Yield	253	340	375	265	337	405	417	314	334	277	347	298	295	327
Bihar														
Area	269	244	241	262	261	246	245	221	227	217	184	196	196	192
Production	188	174	170	134	114	157	135	141	124	134	113	141	141	132
Yield	699	713	706	511	439	631	550	639	549	617	611	718	718	688
Gujarat														
Area	41	53	57	34	59	37	77	77	71	66	66	64	88	73
Production	20	44	40	28	54	15	54	49	39	59	31	47	70	49
Yield	488	830	707	821	914	417	694	638	556	894	476	740	797	671
Haryana														
Area	1,006	1,046	1,119	970	994	705	1,106	1,029	1,149	1,063	553	741	1,044	779
Production	970	774	647	551	448	343	907	824	965	1,044	316	466	309	364
Yield	964	740	578	568	451	487	820	801	840	982	571	629	296	467
Karnataka														
Area	209	160	152	132	158	163	192	163	168	164	153	144	166	154
Production	93	62	62	20	75	68	89	50	59	69	69	58	74	67
Yield	445	389	406	148	476	402	463	309	352	423	452	401	447	435
Madhya Pradesh														
Area	1,594	1,619	1,686	1,625	1,851	1,842	1,917	2,018	1,780	1,739	2,174	2,077	1,932	1,971
Production	852	856	1,148	1,109	1,057	1,144	1,226	1,049	907	1,032	924	863	880	1,089
Yield	535	529	681	682	571	621	640	520	510	593	425	489	462	553
Maharashtra														
Area	385	369	433	242	393	412	456	428	472	460	453	429	461	448
Production	113	99	133	41	148	141	185	135	147	157	173	150	177	167
Yield	294	267	306	168	377	242	406	315	312	342	383	350	383	373

TABLE 3.2 (Concluded)

Area : '000 hectares
Production : '000 tonnes
Yield : Kgs. per hectare

State	Triennium ending 1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	Triennium ending 1981-82
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Orissa														
Area	23	22	17	26	28	28	31	28	33	45	41	50	41	44
Production	14	13	8	14	14	14	15	12	17	23	17	26	22	22
Yield	609	595	470	519	505	512	485	435	498	525	417	524	528	500
Punjab														
Area	442	357	335	319	352	266	381	349	353	351	236	258	243	246
Production	363	284	282	267	315	216	376	311	322	284	162	150	115	142
Yield	821	794	841	837	896	812	986	891	912	809	686	581	473	577
Rajasthan														
Area	1,201	1,618	1,642	1,205	1,501	1,425	1,952	1,776	1,862	1,748	1,378	1,225	1,917	1,507
Production	811	1,195	885	803	715	796	1,498	1,361	1,488	1,589	750	854	1,246	950
Yield	675	739	539	667	477	558	767	767	799	909	544	697	650	630
Uttar Pradesh														
Area	2,257	2,078	1,989	1,921	1,956	1,721	1,726	1,659	1,656	1,641	1,554	1,496	1,591	1,547
Production	1,657	1,544	1,567	1,461	1,044	1,010	1,250	1,362	1,207	1,228	693	1,288	1,064	1,015
Yield	734	743	788	761	534	587	724	821	729	748	446	861	669	656
West Bengal														
Area	167	115	135	116	94	77	99	100	89	101	104	96	65	88
Production	121	103	90	67	54	56	79	70	79	65	72	56	43	57
Yield	725	666	670	574	572	727	796	696	887	649	691	578	663	648
All-India														
Area	7,704	7,839	7,912	6,967	7,761	7,041	8,320	7,974	7,974	7,708	6,985	6,584	7,823	7,131
Production	5,276	5,199	5,081	4,537	4,099	4,015	5,879	5,424	5,410	5,739	3,357	4,328	4,567	4,084
Yield	685	663	642	651	528	570	707	680	678	745	481	657	584	573

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

TABLE 3.3
Gram : Index Numbers of Wholesale Prices

(Base : 1970-71-100)

Month	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84
1	2	3	4	5	6	7	8	9	10	11	12	13
April	109.6	148.1	233.6	212.1	148.8	144.3	225.3	216.1	240.2	384.2	307.6	282.1
May	107.9	153.8	231.1	213.6	126.9	166.9	200.6	208.6	272.4	386.4	300.0	284.6
June	118.3	162.1	225.0	206.8	120.4	166.2	202.6	211.5	294.9	388.8	309.8	282.4
July	124.0	188.0	232.3	198.4	133.8	173.8	208.9	222.5	334.2	399.8	312.9	286.6
August	130.3	192.6	255.5	203.9	131.8	178.3	228.9	236.6	338.3	426.4	326.8	
September	131.5	196.0	272.0	211.7	129.6	199.6	251.7	241.7	365.4	426.7	315.5	
October	135.6	210.4	267.3	214.0	128.0	206.7	253.4	236.4	421.3	420.0	304.5	
November	143.1	227.6	267.0	213.6	130.2	221.2	250.4	235.3	480.3	394.8	307.6	
December	145.7	226.2	264.7	200.2	132.2	235.7	238.9	241.1	432.2	368.0	298.4	
January	142.3	230.7	247.0	204.2	141.2	224.5	233.8	240.9	427.3	353.5	284.5	
February	141.3	235.3	237.5	199.4	145.9	224.8	223.0	245.8	430.4	327.6	279.3	
March	147.3	243.3	222.3	179.2	145.7	241.8	228.5	242.8	397.2	310.5	274.8	
Average	131.4	201.3	246.3	204.8	134.5	198.6	228.8	231.6	369.5	382.2	301.8	

Source : Office of the Economic Adviser, Ministry of Industry.

TABLE 3.4
Gram : (whole) : Month-end Wholesale prices

(Rs. per quintal)

State/Centre	Variety	Year	April	May	June	July	August	September	October	November	December	January	February	March
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Bihar</i>														
Patna	Deshi	1979-80	205.00	220.00	230.00	240.00	240.00	260.00	260.00	250.00	250.00	260.00	275.00	225.00
		1980-81	240.00	280.00	300.00	350.00	350.00	375.00	425.00	400.00	365.00	410.00	438.00	390.00
		1981-82	290.00	335.00	333.00	400.00	400.00	410.00	420.00	360.00	365.00	325.00	310.00	325.00
		1982-83	290.00	300.00	315.00	325.00	330.00	345.00	340.00	325.00	310.00	290.00	290.00	275.00
		1983-84	285.00	265.00	265.00	300.00								

Malegaon	Yellow	1979-80	190.00	207.00	208.00	256.00	248.00	..	..	..	..	..	211.00	210.00	203.00
		1980-81	222.00	258.00	289.00	320.00	309.00	381.00	456.00	429.00	337.00	347.00	344.00	344.00	333.00
		1981-82	374.00	370.00	362.00	401.00	300.00	376.00	360.00	331.00	379.00	253.00	257.00	253.00	253.00
		1982-83	232.00	248.00	255.00	309.20	278.00	265.00	249.00	259.00	210.00	235.00	232.00	232.00	226.00
		1983-84	260.00	240.00	225.00	252.00**									
Punjab		1979-80	192.00	190.00	192.00	200.00	220.00	210.00	205.00	205.00	215.00	210.00	212.00	210.00	220.00
Moga	Deshi	1980-81	210.00	257.00	275.00	315.00	319.00	325.00	460.00	440.00	432.00	405.00	400.00	400.00	360.00
		1981-82	370.00	352.00	355.00	360.00	388.00	378.00	360.00	390.00	330.00	302.00	305.00	305.00	273.00
		1982-83	250.00	..	..	263.00	310.00	240.00	275.00	235.00	227.00	..	258.00	258.00	268.00
		1983-84	..	..	..	..	..	..	..	..	..	..	..	..	..
Barnala	Deshi	1979-80	174.00	183.00	174.00	197.00	201.00	198.00	201.00	201.00	206.00	190.00	217.00	190.00	204.00
		1980-81	242.00	267.00	293.00	323.00	305.00	336.00	440.00	435.00	366.00	377.00	345.00	345.00	340.00
		1981-82	320.00	323.00	344.00	375.00	364.00	369.00	339.00	308.00	305.00	360.00	220.00	220.00	250.00
		1982-83	250.00	285.00	245.00	255.00	242.00	250.00	250.00	250.00	250.00	246.00	220.00	220.00	230.00
		1983-84	250.00	237.00	238.00	..	..	..	..	..	..	..	..	..	..
Amritsar	Deshi	1979-80	180.00	185.00	192.00	193.00	203.00	212.00	200.00	210.00	215.00	218.00	214.00	214.00	221.00
		1980-81	220.00	275.00	294.00	330.00	325.00	356.00	460.00	420	370.00	396.00	360.00	360.00	380.00
		1981-82	350.00	367.00	360.00	375.00	400.00	400.00	395.00	380.00	375.00	340.00	310.00	310.00	270.00
		1982-83	285.00	320.00	295.00	295.00	297.00	295.00	295.00	285.00	270.00	800.00	260.00	260.00	260.00
		1983-84	255.00	255.00	265.00	260.00	..	..	..	..	..	..	..	..	..
Rajasthan		1979-80	..	180.00	174.00	204.00	210.00	210.00	203.00	202.00	209.00	202.00	209.00	209.00	190.00
Jaipur	Local	1980-81	215.00	245.00	282.00	302.00	340.00	340.00	360.00	..	..	365.00	315.00	315.00	320.00
		1981-82	350.00	340.00	345.00	386.00	380.00	370.00	..	285.00	300.00	260.00	236.00	236.00	252.00
		1982-83	238.00	247.00	239.00	276.00	250.00	235.00	230.00	241.00	218.00	208.00	212.00	212.00	210.00
		1983-84	225.00	220.00	218.00	238.00	..	..	..	..	..	..	..	..	..
Striganganagar	Local	1979-80	161.00	171.00	161.00	189.00	195.00	189.00	194.00	199.00	217.00	203.00	209.00	209.00	197.00
		1980-81	225.00	250.00	278.00	314.00	303.00	328.00	373.00	365.00	323.00	357.00	365.00	365.00	310.00
		1981-82	340.00	336.00	345.00	385.00	386.00	375.00	350.00	330.00	325.00	256.00	240.00	240.00	254.00
		1982-83	240.00	265.00	240.00	270.00	255.00	250.00	225.00	255.00	240.00	210.00	213.00	213.00	215.00
		1983-84	222.00	235.00	226.00	220.00	..	..	..	..	..	..	..	..	..
Uttar Pradesh		1979-80	178.00	185.00	175.00	198.00	225.00	212.00	215.00	212.00	216.00	215.00	225.00	225.00	210.00
Kanpur	Deshi	1980-81	235.00	295.00	292.00	332.00	316.00	325.00	415.00	425.00	362.00	340.00	340.00	340.00	315.00
		1981-82	295.00	332.00	335.00	350.00	356.00	362.00	325.00	325.00	288.00	282.00	270.00	270.00	262.00
		1982-83	258.00	270.00	255.00	256.00	260.00	260.00	244.00	235.00	232.00	232.00	230.00	230.00	232.00
		1983-84	220.00	235.00	235.00	240.00	..	..	..	..	..	..	..	..	..

TABLE 3.4 (Concluded)

(Rs. per quintal)

State/Centre	Variety	Year	April	May	June	July	August	September	October	November	December	January	February	March
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Jhansi	Deshi	1979-80	164.00	172.00	165.00	195.00	200.00	192.00	196.00	190.00	200.00	196.00	208.00	195.00
		1980-81	220.00	250.00	249.00	305.00	297.00	340.00	400.00	395.00	310.00	352.00	325.00	300.00
		1981-82	320.00	335.00	320.00	370.00	360.00	350.00	326.00	282.00	300.00	245.00	240.00	235.00
		1982-83	225.00	240.00	232.00	260.00	267.00	248.00	232.00	243.00	243.00	235.00	231.00	218.00
		1983-84	218.00	217.00	214.00	224.00**								
West Bengal Calcutta	Small	1979-80	215.00	210.00	205.00	225.00	230.00	245.00	235.00	235.00	230.00	230.00	230.00	225.00
		1980-81	220.00	230.00	240.00	270.00	280.00	330.00	380.00	380.00	340.00	340.00	350.00	350.00
		1981-82	320.00	350.00	350.00	370.00	380.00	380.00	410.00	..	310.00	302.00	300.00	300.00
		1982-83	300.00	290.00	285.00	280.00	275.00	270.00	270.00	310.00	265.00	250.00	255.00	260.00
		1983-84	265.00	265.00	260.00	270.00								
Delhi Delhi	Garara	1979-80	178.00	194.00	187.00	211.00	225.00	219.00	220.00	223.00	228.00	223.00	226.00	215.00
		1980-81	249.00	270.00	307.00	331.00	335.00	370.00	505.00	451.00	450.00	400.00	355.00	330.00
		1981-82	372.00	376.00	370.00	416.00	405.00	407.00	385.00	325.00	342.00	300.00	266.00	280.00
		1982-83	250.00	277.00	265.00	302.00	280.00	271.00	260.00	275.00	250.00	233.00	237.00	234.00
		1983-84	244.00	248.00	240.00	242.00**								

*Relates to first week of July 1983.

**Relates to fourth week of July 1983.

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

TABLE 3.5

Gram : Estimates of Cost of Cultivation/Production and related Data for 1981-82

Items	Madhya Pradesh	Rajasthan
1	2	3
Cost of cultivation per hectare (Rs.)		
A ¹	768.10	660.36
A ²	768.10	705.18
B ¹	911.18	832.77
B ²	1417.77	1161.20
C ¹	1064.05	1082.61
C ²	1570.65	1411.14
Cost of Production per quintal (Rs.)		
A ¹	96.23	89.59
A ²	96.23	96.91
B ¹	114.86	112.97
B ²	172.55	158.03
C ¹	133.74	147.36
C ²	191.42	192.42
Material and labour Inputs used per hectare seed (Kgs.)	81.28	57.67
Fertiliser (kgs. in terms of nutrients)	6.44	1.56
Manure (Quintals)	0.37	0.43
Human labour (Man hours)	328.24	299.61
Bullock labour (pair hours)	130.12	67.11

NOTES : 1. The estimates are provisional.

2. Cost A¹ . All actual expenses in cash and kind incurred in production by owner operator.
- Cost A² . Cost A¹ + rent paid for leased-in-land.
- Cost B¹ . Cost A¹ + interest on value of owned capital assets (excluding land).
- Cost B² . Cost B¹ + rental value of owned land (net of land revenue) and rent paid for leased in-land.
- Cost C¹ . Cost B¹ + imputed value of family labour.
- Cost C² . Cost B² + imputed value of family labour.

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

TABLE 3.6

Gram : Break-up of Cost of Cultivation per hectare for 1981-82 (In Rs.)

Cost Items	Madhya Pradesh	Rajasthan
1	2	3
Operational Cost	844.63	880.76
<i>Human labour</i>		
Casual	83.98	51.89
Attached	19.88	11.69
Family	152.87	249.94
Total	256.73	313.52
<i>Bullock Labour</i>		
Hired	15.10	12.48
Owned	185.33	221.81
Total	200.43	234.29
<i>Machine Labour</i>		
Hired	1.25	34.60
Owned	15.87	3.71
Total	17.12	38.31
Seed	275.79	219.32
<i>Fertiliser and Manure</i>		
Fertiliser	37.42	8.22
Manure	2.61	1.67
Total	40.03	9.89
Insecticides	12.76	2.92
Irrigation charges	20.81	43.39
Interest on working capital	20.96	19.12
Total	726.02	530.38
<i>Fixed Cost</i>		
Rental value of owned land	5 06.59	283.72
Rent paid for leased-in land		44.82
Land revenue, cesses and taxes	5.29	7.22
Depreciation on implements and farm building.	71.06	22.31
Interest on fixed capital	143.08	172.31
TOTAL COST	1570.65	1411.14

TABLE 4.1
Oilseeds : Area , Production and Yield —All India

Commodity	Average Triennium 67-68 to 69-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	Average
														Triennium 79-80 to 81-82
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Groundnut</i>														
Area	7,255	7,326	7,510	6,990	7,024	7,063	7,222	7,043	7,028	7,433	7,165	6,801	7,448	7,138
Production	5,164	6,111	6,181	4,092	5,932	5,111	6,754	5,264	6,087	6,208	5,768	5,005	7,239	6,004
Yield	712	834	823	585	845	724	935	747	866	835	805	736	972	841
<i>Castorseed</i>														
Area	412	439	453	426	546	590	375	496	380	447	441	498	558	499
Production	120	136	154	145	229	210	143	179	217	229	227	204	302	244
Yield	291	310	340	341	419	356	381	361	572	513	516	411	542	489
<i>Sesamum</i>														
Area	2,462	2,433	2,392	2,288	2,386	2,234	2,170	2,279	2,384	2,389	2,377	2,472	2,521	2,457
Production	438	562	449	385	485	392	479	422	520	514	348	446	524	439
Yield	178	231	188	168	203	176	221	185	218	215	146	180	208	179
<i>Rapeseed-Mustard</i>														
Area	3,095	3,323	3,614	3,319	3,457	3,680	3,339	3,128	3,584	3,544	3,471	4,113	4,337	3,974
Production	1,495	1,976	1,433	1,808	1,704	2,252	1,936	1,550	1,650	1,860	1,428	2,002	2,363	1,931
Yield	482	594	396	545	493	612	580	496	460	525	411	487	545	486
<i>Linseed</i>														
Area	1,759	1,897	2,064	1,726	2,038	2,071	2,119	1,888	2,010	2,092	1,614	1,673	1,784	1,690
Production	412	474	529	428	504	564	598	419	527	535	269	423	474	389
Yield	234	250	256	248	247	272	282	222	262	256	167	253	266	230
<i>Five Major Oilseeds</i>														
Area	14,983	15,418	16,033	14,749	15,451	15,638	15,225	14,834	15,386	15,905	15,067	15,557	16,648	15,758
Production	7,627	9,259	8,746	6,858	8,854	8,529	9,911	7,834	9,001	9,346	8,040	8,080	10,902	9,007
Yield	509	601	546	465	573	545	651	528	585	588	534	519	655	572

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 4.2

Rapeseed and Mustard : Area, Production and Yield

State	Average Triennium ending 1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	Average Triennium ending 1981-82	Area	Production	Yield
															: '000 hectares	: '000 tonnes	: Kgs. per hectare
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
<i>Assam</i>																	
Area	134	137	136	158	165	168	164	168	182	196	210	213	224	216			
Production	53	57	64	65	91	65	64	60	73	85	96	102	103	100			
Yield	396	412	469	412	547	386	388	358	401	437	455	479	460	483			
<i>Bihar</i>																	
Area	82	85	78	84	89	91	102	90	102	91	80	86	75	80			
Production	49	49	35	44	43	48	55	47	53	38	35	39	46	40			
Yield	598	579	446	524	485	528	537	525	517	419	439	454	613	500			
<i>Gujarat</i>																	
Area	28	35	35	43	55	74	64	77	100	105	108	119	170	132			
Production	12	16	16	19	31	28	26	37	40	51	50	55	78	61			
Yield	429	471	457	436	570	383	410	484	401	488	459	462	459	462			
<i>Haryana</i>																	
Area	144	129	163	211	169	198	137	105	177	119	126	301	202	210			
Production	71	88	90	99	53	137	65	66	85	81	63	179	141	127			
Yield	493	682	552	469	314	693	475	629	479	684	500	595	698	605			
<i>Madhya Pradesh</i>																	
Area	161	205	234	213	236	265	242	180	253	239	185	236	244	222			
Production	51	60	91	100	114	142	127	47	85	93	47	143	146	112			
Yield	317	295	390	467	481	535	524	260	337	388	256	606	598	505			
<i>Orissa</i>																	
Area	64	55	61	65	72	86	95	67	110	152	145	162	162	156			
Production	25	26	28	31	35	38	45	26	48	68	39	72	72	61			
Yield	391	466	458	475	477	444	471	394	441	450	372	444	444	391			

TABLE 4.2 (Concluded)

Area : '000 hectares
 Production : '000 tonnes
 Yield : Kgs. per hectare

State	Average Triennium ending 1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	Average Triennium ending 1981-82
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Punjab</i>														
Area	102	103	128	172	179	179	122	67	128	83	88	146	108	114
Production	52	57	82	107	136	140	78	46	64	57	63	77	72	71
Yield	510	553	641	621	762	782	639	687	500	687	716	527	667	623
<i>Rajasthan</i>														
Area	167	254	383	294	374	424	253	231	353	315	349	363	651	454
Production	68	247	123	216	111	255	127	101	163	204	149	249	458	285
Yield	407	972	320	733	296	600	504	439	462	647	427	686	704	628
<i>Uttar Pradesh</i>														
Area	2,054	2,164	2,244	1,935	1,933	2,035	2,008	2,015	2,007	2,058	1,994	2,276	2,258	2,176
Production	1,050	1,314	844	1,058	1,004	1,324	1,275	1,057	940	1,089	782	927	1,074	928
Yield	511	607	376	547	520	650	635	524	468	529	392	407	476	427
<i>West Bengal</i>														
Area	112	108	107	96	123	103	95	72	97	110	116	131	163	137
Production	35	36	35	43	44	40	39	26	43	47	53	79	95	76
Yield	313	330	325	446	361	387	412	353	443	425	462	603	583	555
<i>All-India</i>														
Area	3,096	3,323	3,614	3,319	3,457	3,680	3,339	3,128	3,584	3,544	3,471	4,113	4,337	3,974
Production	1,493	1,976	1,433	1,808	1,704	2,252	1,936	1,550	1,650	1,860	1,428	2,002	2,363	1,931
Yield	482	594	396	545	493	612	580	496	460	525	411	487	545	486

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

TABLE 4.3

Rapeseed and Mustard : Index Numbers of Wholesale Prices

(Base : 1970-71=100)

Month	1974— 75	1975— 76	1976— 77	1977— 78	1978— 79	1979— 80	1980— 81	1981— 82	1982— 83	1983— 84
1	2	3	4	5	6	7	8	9	10	11
April	187.2	145.3	108.9	202.9	181.6	181.8	228.5	246.6	211.0	250.0
May	189.0	143.1	110.7	224.8	196.5	178.6	241.5	259.3	218.3	271.7
June	195.8	134.9	120.4	228.1	209.3	184.8	255.9	274.8	222.8	288.7
July	195.6	120.9	138.7	240.5	210.1	203.6	280.6	284.9	237.1	295.4
August	206.3	122.3	141.7	244.6	212.6	210.9	275.0	291.4	259.1	
September	215.3	117.4	149.1	270.8	217.9	213.3	282.4	281.5	257.3	
October	213.2	113.4	152.5	244.6	212.5	208.1	202.8	275.2	256.1	
November	207.2	115.3	181.3	238.6	206.8	221.1	305.0	273.7	263.1	
December	195.5	112.7	208.2	243.7	195.6	225.7	282.6	256.0	256.5	
January	158.0	116.4	214.3	219.2	180.9	219.2	284.0	259.0	251.9	
February	139.2	101.0	229.4	203.8	160.4	235.7	269.6	252.4	249.7	
March	134.0	96.6	211.0	183.4	169.6	228.1	240.3	226.7	241.8	
Average	185.5	119.9	163.8	228.7	196.2	209.2	269.9	265.1	243.6	

Source : Office of the Economic Adviser, Ministry of Industry.

TABLE 4.4

Mustard Oil : Index Numbers of Wholesale Prices

(Base : 1970-71=100)

Month	1974— 75	1975— 76	1976— 77	1977— 78	1978— 79	1979— 80	1980— 81	1981— 82	1982— 83	1983— 84
1	2	3	4	5	6	7	8	9	10	11
April	172.6	131.8	99.9	185.8	176.1	178.4	217.0	244.6	233.4	244.4
May	182.0	128.1	89.4	203.4	179.1	174.2	230.2	253.6	223.0	256.9
June	182.8	117.8	104.7	204.0	187.8	178.1	233.6	264.5	228.2	268.4
July	179.5	113.3	121.2	212.4	190.8	187.3	244.6	275.4	233.9	270.1
August	191.2	112.9	120.8	217.6	189.9	199.2	258.9	286.2	250.6	
September	199.7	108.8	129.0	240.7	193.1	204.6	258.2	279.1	257.3	
October	196.7	105.5	135.5	237.0	192.4	201.4	265.9	276.1	253.1	
November	190.0	106.4	156.0	212.8	190.7	208.2	276.3	275.0	255.4	
December	187.6	105.2	181.5	202.4	186.9	216.6	276.0	261.6	254.9	
January	160.5	105.5	191.0	199.9	177.8	210.2	273.0	257.9	252.2	
February	143.2	98.0	204.1	184.1	161.0	226.1	270.2	255.8	250.8	
March	131.1	89.5	125.7	175.4	167.3	226.9	251.2	284.4	242.8	
Average	176.4	110.2	139.1	206.3	182.7	200.9	254.6	264.9	244.4	

Source : Office of the Economic Adviser, Ministry of Industry.

TABLE 4.5

Rapeseed and Mustard : Month-end Wholesale Prices

(Rs. per Quintal)

State/Centre	Variety	Year	April	May	June	July	August	September	October	November	December	January	February	March	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Uttar Pradesh	Gambhali	Local	1979-80	350.00	350.00	340.00	380.00	375.00	370.00	360.00	400.00	430.00	350.00	350.00	360.00
			1980-81	425.00	425.00	425.00	500.00	525.00	525.00	540.00	530.00	540.00	480.00	400.00	450.00
			1981-82	475.00	500.00	540.00	525.00	525.00	500.00	500.00	475.00	410.00	450.00	480.00	..
			1982-83	380.00	420.00	400.00	420.00	425.00	440.00	440.00	440.00	..	420.00	435.00	350.00
			1983-84	450.00	450.00	490.00	490.00	..	..	..	..	..	..	..	..
Nowgong	Brown (Sarson)	1979-80	345.00	340.00	350.00	370.00	362.00	..	..	..	..	350.00	340.00	..	
		1980-81	380.00	..	..	..	..	530.00	545.00	..	..	555.00	400.00	520.00	
		1981-82	525.00	535.00	500.00	490.00	530.00	540.00	540.00	550.00	560.00	..	435.00	415.00	
		1982-83	415.00	410.00	415.00	420.00	440.00	460.00	430.00	..	..	435.00	..	450.00	
		1983-84	430.00	450.00	..	550.00**	..	..	..	..	..	..	..	..
Bihar	Purnea	Gulab bag	1979-80	340.00	350.00	365.00	390.00	410.00	405.00	..	415.00	425.00	280.00	435.00	380.00
			1980-81	420.00	450.00	470.00	500.00	..	..	550.00	510.00	480.00	470.00	..	..
			1981-82	..	..	500.00	550.00	575.00	540.00	550.00	550.00	525.00	480.00	425.00	420.00
			1982-83	425.00	440.00	460.00	440.00	500.00	500.00	450.00	500.00	..	350.00	400.00	400.00
			1983-84	450.00	470.00	490.00	490.00*	..	..	..	..	..	..	..	..
Haryana	Rohtak	Sarson	1979-80	295.00	295.00	314.00	352.00	343.00	338.00	332.00	358.00	365.00	355.00	410.00	350.00
			1980-81	385.00	415.00	425.00	470.00	445.00	480.00	518.00	500.00	435.00	..	..
			1981-82	416.00	448.00	480.00	470.00	460.00	458.00	400.00	419.00	410.00	415.00	400.00	345.00
			1982-83	335.00	370.00	365.00	415.00	430.00	400.00	420.00	418.00	..	375.00	400.00	441.00
			1983-84	..	485.00	485.00	506.00**	..	..	..	..	..	..	..	..
Rajasthan	Ganganagar	Sarson	1982-83	340.00	375.00	365.00	415.00	430.00	410.00	400.00	..	439.00	..	444.00	
			1983-84	410.00	475.00	465.00	500.00	..	..	..	..	..	..	..
Uttar Pradesh	Kanpur	Yellow (Mustard)	1979-80	345.00	347.00	345.00	400.00	400.00	390.00	400.00	420.00	410.00	410.00	455.00	420.00
			1980-81	430.00	520.00	480.00	525.00	550.00	550.00	555.00	555.00	535.00	510.00	465.00	420.00
			1981-82	455.00	476.00	498.00	560.00	560.00	565.00	548.00	540.00	525.00	525.00	545.00	485.00
			1982-83	445.00	450.00	430.00	485.00	485.00	480.00	478.00	464.00	460.00	476.00	475.00	475.00
			1983-84	490.00	550.00	585.00	590.00	..	..	..	..	..	..	..	..

151

TABLE 4.5 (Concluded)

(Rs. per quintal)

State/Centre	Variety	Year	April	May	June	July	August	September	October	November	December	January	February	March
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
<i>Uttar Pradesh</i>														
Kanpur	Black	1979-80	326.00	330.00	330.00	380.00	390.00	375.00	385.00	405.00	400.00	390.00	450.00	400.00
		1980-81	405.00	480.00	465.00	510.00	512.00	525.00	525.00	550.00	518.00	480.00	420.00	400.00
		1981-82	450.00	460.00	488.00	535.00	525.00	525.00	525.00	525.00	495.00	495.00	460.00	445.00
		1982-83	390.00	392.00	380.00	445.00	464.00	460.00	450.00	430.00	438.00	445.00	440.00	440.00
		1983-84	455.00	520.00	540.00	545.00								
Hapur	Laha	1979-80	308.00	315.00	338.00	355.00	375.00	372.00	360.00	395.00	400.00	400.00	400.00	410.00
		1980-81	..	424.00	425.00	475.00	465.00	485.00	515.00	510.00	490.00	430.00	460.00	400.00
		1981-82	435.00	460.00	470.00	515.00	505.00	490.00	490.00	480.00	440.00	480.00	415.00	370.00
		1982-83	368.00	385.00	375.00	430.00	435.00	..	..	..	..	430.00	445.00	420.00
		1983-84	445.00	490.00	492.00	495.00*								
<i>West Bengal</i>														
Calcutta	Rai, U.P.	1979-80	370.00	355.00	370.00	410.00	425.00	420.00	425.00	470.00	440.00	440.00	520.00	445.00
		1980-81	465.00	490.00	530.00	560.00	542.00	570.00	650.00	630.00	575.00	580.00	520.00	460.00
		1981-82	500.00	535.00	565.00	585.00	575.00	560.00	560.00	560.00	525.00	525.00	490.00	455.00
		1982-83	420.00	440.00	450.00	480.00	530.00	530.00	525.00	550.00	..	505.00	490.00	480.00
		1983-84	500.00	560.00	545.00	575.00								
<i>Delhi</i>														
Delhi	Laha	1979-80	305.00	323.00	380.00	375.00	375.00	360.00	365.00	395.00	395.00	380.00	420.00	385.00
		1980-81	410.00	435.00	455.00	485.00	475.00	495.00	554.00	515.00	470.00	495.00	430.00	415.00
		1981-82	430.00	480.00	485.00	505.00	470.00	470.00	450.00	430.00	430.00	430.00	390.00	370.00
		1982-83	370.00	380.00	405.00	460.00	460.00	440.00	450.00	475.00	455.00	455.00	440.00	420.00
		1983-84	460.00	510.00	515.00	550.00								

*—Relates to first week of July 1983.

**—Relates to fourth week of July 1983.

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 4.6

Mustard Oil : Month-end Wholesale Prices

(Rs. per quintal)

State/Centre	Year	April	May	June	July	August	September	October	November	December	January	February	March
1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Assam</i>													
Gauhati	1979-80	968.00	950.00	981.00	1018.00	1038.00	1019.00	1025.00	1106.00	1181.00	1125.00	1194.00	1112.00
	1980-81	1188.00	1231.00	1200.00	1362.00	1356.00	1375.00	1450.00	1488.00	1456.00	1450.00	1368.00	1262.00
	1981-82	1325.00	1350.00	1394.00	1480.00	1400.00	1375.00	1388.00	1325.00	1288.00	1294.00	1168.00	1175.00
	1982-83	1150.00	1175.00	1169.00	1238.00	1262.00	1256.00	1262.00	1268.00	..	1325.00	1325.00	1200.00
	1983-84	1300.00	1300.00	1362.00	1450.00								
<i>Bihar</i>													
Patna	1979-80	1013.00	1013.00	1018.00	1020.00	1131.00	1137.00	1097.00	1175.00	1244.00	1200.00	1400.00	1244.00
	1980-81	1287.00	1319.00	1337.00	1437.00	1450.00	1506.00	1613.00	1600.00	1531.00	1462.00	1413.00	1337.00
	1981-82	1350.00	1445.00	1445.00	1587.00	1544.00	1481.00	1525.00	1487.00	1394.00	1462.00	1387.00	1369.00
	1982-83	1219.00	1244.00	1300.00	1365.00	1437.00	1425.00	1425.00	..	..	1300.00	1275.00	1437.50
	1983-84	1550.00	1562.50	1530.00	1655.00								
<i>Haryana</i>													
Rohtak	1979-80	850.00	750.00	800.00	900.00	925.00	925.00	920.00	975.00	1000.00	965.00	1060.00	950.00
	1980-81	975.00	1045.00	1050.00	1170.00	1160.00	1180.00	1250.00	..	..	1200.00	1240.00	1150.00
	1981-82	1140.00	1170.00	1245.00	1265.00	1300.00	1255.00	1220.00	1250.00	1200.00	1160.00	1150.00	1155.00
	1982-83	1000.00	1000.00	1000.00	1075.00	1150.00	1150.00	1200.00	1200.00	..	..	1150.00	1100.00
	1983-84	1050.00	..	..	..					
<i>Punjab</i>													
Moga	1979-80	870.00	800.00	850.00	950.00	950.00	950.00	915.00	1000.00	950.00	1100.00	1000.00	1050.00
	1980-81	1165.00	1165.00	1270.00	1250.00	1280.00	1285.00	1350.00	1325.00	1290.00	1290.00	1340.00	1140.00
	1981-82	1250.00	1300.00	1350.00	1350.00	1350.00	1300.00	1248.00	1200.00	1225.00	1225.00	1100.00	1180.00
	1982-83	1000.00	1100.00	1050.00	1300.00	1220.00	1190.00	1150.00	1200.00	..	1200.00	1200.00	1170.00
	1983-84	1200.00	1130.00	1250.00	1320.00								

TABLE 4.6 (Concluded)

(Rs. per quintal)

State/Centre	Year	April	May	June	July	August	September	October	November	December	January	February	March
1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Uttar Pradesh</i>													
Kanpur	1979-80	885.00	900.00	920.00	1000.00	1015.00	1030.00	995.00	1090.00	1090.00	1050.00	1260.00	1000.00
	1980-81	1120.00	1180.00	1170.00	1300.00	1300.00	1340.00	1375.00	1360.00	1310.00	1330.00	1220.00	1125.00
	1981-82	1180.00	1240.00	1340.00	1410.00	1410.00	1390.00	1385.00	1370.00	1350.00	1340.00	1260.00	1150.00
	1982-83	1035.00	1115.00	1120.00	1200.00	1225.00	1230.00	1215.00	1200.00	1185.00	1180.00	1175.00	1160.00
	1983-84	1210.00	1300.00	1370.00	1385.00								
<i>West Bengal</i>													
Calcutta	1979-80	1062.50	1150.00	1150.00	1187.50	1218.75	1218.75	1218.75	1315.94	1315.94	1370.95	1390.94	1472.19
	1980-81	1472.19	1475.94	1475.94	1475.94	1538.75	1562.50	1613.75	1726.25	1726.25	1676.25	1718.75	1700.00
	1981-82	1700.00	1550.00	1550.00	1700.00	1700.00	1700.00	1700.00	1700.00	1706.25	1706.25	1706.25	1706.25
	1982-83	1531.25	1531.25	1531.25	1531.25	1531.25	1531.25	1531.25	1550.00	..	1550.00	1550.00	1550.00
	1983-84	1550.00	1618.75	1618.75	1750.00								
<i>Delhi</i>													
Delhi	1979-80	776.00	782.00	848.00	957.00	945.00	909.00	939.00	1006.00	1012.00	988.00	1109.00	970.00
	1980-81	982.00	1036.00	1121.00	1170.00	1164.00	1194.00	1364.00	1285.00	1212.00	1200.00	1151.00	1091.00
	1981-82	1103.00	1194.00	1242.00	1321.00	1273.00	1248.00	1182.00	1152.00	1200.00	1261.00	1224.00	1152.00
	1982-83	1079.00	1097.00	1085.00	1250.00	1230.00	1194.00	1230.00	1230.00	..	1268.75	1218.75	1187.50
	1983-84	1275.00	1362.50	1350.00	1481.25								

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 4.7

Rapeseed and Mustard : Estimates of Cost of Cultivation/
Production and related Data for 1981-82

Items	Rajasthan
1	2
Cost of Cultivation per hectare (Rs.)	
A1	522.05
A2	598.14
B1	731.62
B2	1174.99
C1	993.51
C2	1436.88
Cost of Production per quintal (Rs.)	
A1	87.41
A2	105.65
B1	122.68
B2	192.74
C1	165.59
C2	235.65
Material and labour Inputs used per hectare	
Seed (Kgs.)	4.50
Fertiliser (Kgs. in terms of nutrients)	3.84
Manure (Quintals)	0.19
Human labour (manhours)	307.45
Bullock labour (pair hours)	65.58

- NOTES : 1. The estimates are provisional.
2. Cost A1 — All actual expenses in cash and kind incurred in production by owner operator.
Cost A2 — Cost A1 + rent paid for leased-in land.
Cost B1 — Cost A1 + interest on value of owned capital assets (excluding land).
Cost B2 — Cost B1 + rental value of owned land (net of land revenue) and rent paid for leased-in land.
Cost C1 — Cost B1 + imputed value of family labour.
Cost C2 — Cost B2 + imputed value of family labour.

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

TABLE 4.8

Rapeseed and Mustard : Break up of Cost of Cultivation
per hectare for 1981-82

(In Rs.)	
Cost Items	Rajasthan
1	2
Operational Cost	
<i>Human labour</i>	
Casual	39.34
Attached	10.82
Family	261.89
Total	312.05
<i>Bullock labour</i>	
Hired	4.75
Owned	225.60
Total	230.35
<i>Machine labour</i>	
Hired	17.52
Owned	18.12
Total	35.64
Seed	26.25
<i>Fertiliser and Manure</i>	
Fertilizer	21.80
Manure	1.00
Total	22.80
Insecticides	0.07
Irrigation charges	116.57
Interest on working capital	15.06
<i>Fixed Cost</i>	678.11
Rental value of owned land	367.28
Rent paid for leased-in land	76.09
Land revenue, cesses and taxes	5.23
Depreciation on implements and farm buildings	19.94
Interest on fixed capital	209.57
TOTAL COST	1436.88

**3. REPORT
ON
PRICE POLICY FOR RAW JUTE
FOR
THE 1983-84 SEASON**

PREFACE

The Agricultural Prices Commission submitted its report on price policy for Raw Jute for the 1983-84 season on 3rd February, 1983. The main recommendations made by the Agricultural Prices Commission were : (a) the statutory minimum support price for W-5 Grade of Jute in Assam for the 1983-84 season be fixed at Rs. 185/- per quintal, and (b) the corresponding prices for other varieties/grades of Jute be fixed by the Jute Commissioner in the light of normal market differentials.

Keeping in view the demand-supply situation of raw jute and its cost of production Government accepted the recommendations of the Commission and fixed the statutory minimum support price for W-5 Grade in Assam at Rs. 185/- per quintal for the 1983-84 season. The Jute Corporation of India was designated as the official agency for undertaking price support operations.

S. P. MUKERJI

Secretary to the Government of India
Department of Agriculture & Cooperation
Ministry of Agriculture

NEW DELHI
April, 1984

REPORT ON PRICE POLICY FOR RAW JUTE FOR THE 1983-84 SEASON

In this Report, the Agricultural Prices Commission offers its views on the price policy for raw jute for the 1983-84 season. It recommends that

- (a) the statutory minimum price for W₃ grade of jute in Assam for the 1983-84 season be fixed at Rs. 185* per quintal.
- (b) the corresponding prices for other varieties and grades of jute be fixed by the Jute Commissioner in the light of normal market differentials;
- (c) a systematic appraisal of the Intensive Jute/Mesta Development Programme be undertaken and steps taken for the re-orientation of the programme so as to bring about a perceptible improvement in the productivity of jute;
- (d) in order to overcome chronic shortage of capsularis jute seeds, a bold programme of seed multiplication be chalked out and implemented on a priority basis; and
- (e) in view of the prices of jute falling below the support price in a part of the marketing season in some centres in Assam, the arrangements for the purchase of jute, particularly in the interior areas of the State by the Jute Corporation of India be further improved and the cooperative structure in the State be also strengthened.

2. In the early Seventies, demand for jute goods, domestic as well as exports, averaged at 11.42 lakh tonnes (triennium ending 1973-74). With minor fluctuations, the demand remained stagnant for a number of years, average demand for the triennium ending 1978-79 being placed at 11.26 lakh tonnes. It however, increased to 13.17 lakh tonnes in 1979-80, and since then it has remained at around that level at 13.67 lakh tonnes in 1980-81 and 13.23 lakh tonnes in 1981-82. In recent years, increasing domestic demand has been more or less offset by decline in exports.

3. Export demand for jute goods has declined during the Seventies. From 6.03 lakh tonnes in 1972-73, exports declined to 4.38 lakh tonnes in 1980-81 (triennium averages). Export of jute goods in 1981-82 was no more than 3.9 lakh tonnes. Decline in exports is ascribed to a variety of reasons. World demand for jute products has fallen on account of intense competition from synthetics. In addition, Bangla Desh, by offering better credit facilities and lower prices, has been able to increase her share of exports, while that of India has declined. In the case of

carpet backing, India's share of exports to the U.S.A. has come down from 76.4 per cent in 1972 to 49.2 in 1980 (triennium averages).

4. Domestic demand for jute goods expanded from an average of 5.38 lakh tonnes in 1972-73 to 8.98 lakh tonnes in 1980-81 (triennium averages). While there were fluctuations in domestic demand, and certain years, like 1977-78, showed a decline from the trend level, the upsurge was sustained by significant increases in the output of packageable commodities such as, foodgrains, fertilisers, cement, sugar, salt, etc., during the period. Domestic consumption has therefore, increased its proportion of total production from 45.8 per cent to 66.4 per cent in the same period. (Tables 1.3). The jute industry in India is therefore, no longer to be regarded as largely export-oriented.

5. In line with total demand, production of jute manufactures fluctuated between 10.5 lakh tonnes and 12.8 lakh tonnes during the Seventies. Output of jute manufactures rose to 13.49 lakh tonnes in 1979-80 and 14.06 lakh tonnes in 1980-81 with increase in demand. However, the output of jute goods decline to 13.0 lakh tonnes in 1981-82, expansion in domestic demand being more than offset by shortfall in exports. As a result of increases in the production of foodgrains, sugar, cement and fertilisers, and hence in the demand for sacking, output of sacking went up from an average of 5.00 lakh tonnes during the triennium ending 1973-74 to 7.12 lakh tonnes in the triennium ending 1981-82. Similarly, on account of increase in the output of fertilisers, cotton and cotton textiles etc., production of hessian required for packing also went up by 8.8 per cent, from 3.39 lakh tonnes to an average of 3.69 lakh tonnes. Carpet backing, primarily an export item, showed an opposite trend, its output declining from an average of 1.90 lakh tonnes in 1972-73 to 0.93 lakh tonnes in 1980-81 (triennium averages). (Table 4)

6. Consumption of raw jute by mills went up by 11.3 per cent from 68.49 lakh bales in 1972-73 to 77.34 lakh bales in 1980-81 (triennium averages). However, with decline in the manufacturing activity of jute mills in response to reduced demand, consumption of raw jute also came down to 72.82 lakh bales in 1981-82. (Table 5).

7. Production of raw jute has increased significantly during the last decade and a half. Despite the fact that it fluctuated violently from year to year, the estimated growth rate in the period 1967-68 to 1981-82, is placed at 2.32 per

*Chaudhari Randhir Singh, Member, recommends a price of Rs. 245.00 per quintal for W₅ grade of jute in Assam.

cent compound per annum. This increase in production was more due to expansion of area than step-up in productivity. From 1967-68 to 1981-82, whereas the area expanded at a rate of 1.40 per cent, yield-raise was limited to 0.75 per cent compound per annum. (Tables 7 & 9)

8. Increase in area during the Seventies has taken place both in jute and mesta. The growth in jute area has been contributed mainly by the major jute producing State of West Bengal, showing a compound growth rate of 5.3 per cent during the decade ending 1981-82 and, to a lesser extent by Bihar with a growth rate of 2.9 per cent per annum. In Orissa, area has been fluctuating narrowly between 44 and 53 thousand hectares since 1976-77. In Assam, it came down between 1972-73 and 1977-78 and has remained steady since then, showing a negative growth rate of 2.1 per cent per annum during the decade ending 1981-82. Growth in acreage under jute across the States reflects, to an extent, the impact of differentials in support prices. Even, within the State of West Bengal, districts in the zones getting higher support prices have shown larger acreage growth in jute. (Tables 6 & 9)

9. The average yield of jute of around 13 quintals per hectare is not even half of the potential possible under well-managed and irrigated conditions with recommended doses of inputs and improved varieties of seeds. (Table 8) Despite the expansion of the Intensive Jute Development Programme from 156.8 thousand hectares in 7 districts in 1972-73 to 412.0 thousand hectares in 23 districts in 1982-83, its impact has not been substantial. The adoption of improved technology has also not been uniform. The Draft Fifth Five Year Plan observed that "the various jute programmes have been characterised by rather indifferent quality of extension work. The progress in the use of inputs, such as improved seeds and fertilisers, continued to be low even in areas covered by the package programme". During 1981-82, in the IJDP districts, area coverage under improved seeds was 90 per cent, that under line sowing, soil application of nitrogenous fertilisers and plant protection was only 22, 55 and 19 per cent, respectively. Besides, application of fertilisers was much below the recommended dosage. The growth of productivity between the triennia ending 1971-72 and 1979-80 in IJDP districts as well as non-IJDP districts of West Bengal, Bihar and Orissa was found to be negligible. In the case of Assam, growth of productivity both in IJDP and non-IJDP districts was negative. The Commission therefore, recommends that a systematic appraisal of the programme be undertaken and steps taken for re-orientation of the programme so as to bring about a perceptible improvement in the productivity of jute.

10. The availability of certified seeds of improved varieties is of crucial importance. In 1981-82, of the total quantity of certified seeds

distributed through the National Seeds Corporation and departmentally, the share of capsularis seed was only 7 per cent, although area under capsularis variety is about 40 per cent of the total area under jute. Of the 7497 quintals of seed distributed in West Bengal in 1982, the share of capsularis seed was only 150 quintals. In Bihar, capsularis seeds were not distributed at all. Even in Assam, where mostly capsularis jute is grown, only 16 per cent of the total seed distributed related to that variety. It is therefore, essential to make arrangements for adequate and timely supply of improved seeds of capsularis jute also. The Commission reiterates its earlier recommendation that in order to overcome the chronic shortage of capsularis jute seeds, a bold programme of seed multiplication be chalked out and implemented on a priority basis.

11. Considering the factors determining the domestic demand for jute in the short run, increases in the production of cement and fertilisers and imports of foodgrains in 1982-83 are likely to be counter-balanced, to an extent, by shortfall in output of other packageable commodities. Larger purchases by the Directorate General of Supplies and Disposals on Government account and the entry of USSR in the Indian sacking and hessian market, in the second quarter of 1982-83, has led to some revival in demand. Stocks of jute goods with mills have come down from 1.35 lakh tonnes in June, 1981 to 1.16 lakh tonnes in June, 1982 and in November 1982 also stocks were at about the same level. While mills could depend, to a substantial extent, in 1981-82 upon the stocks available with them to meet the demand for jute goods, the same may not be possible this year. In addition, many of the mills which remained closed for a part of the 1981-82 season, have now re-opened. Therefore, consumption of raw jute may show an increase during the current year.

12. The outlook for 1983-84 is also not that of very high growth in demand. Taking a somewhat optimistic view of production of packageable commodities, the additional domestic demand may be placed between 40 to 50 thousand tonnes of jute goods or between 2.0 to 3.0 lakh bales of raw jute.

13. Exports of jute goods in 1982-83 are not expected to exceed 3.50 lakh tonnes, as against a target of 5.5 lakh tonnes at the end of the Sixth Plan (1984-85). Interesting possibilities of exports of jute goods are being reported, e.g. twistless jute yarn and the fabrics made therefrom compare well with the operational advantages offered by synthetic backing. There is also a possibility of upturn in the existing low levels of carpet backing demand. These should be fully explored and exploited, although their quantitative impact, in the short run, may be somewhat limited. It appears that regional coopera-

tive action for solving the common problems and issues affecting jute have taken a concrete shape and pattern. The producing countries, including India, will be benefited by the agreed action programme. It is necessary to extend the action programme to cover exploration of a joint marketing strategy for jute and jute goods which will assist the jute producing countries to retain and possibly even increase the size of the market.

14. As regards the supply of raw jute, there was a reversal in 1981-82 of the earlier uptrend in area. This resulted from a substantial fall in the relative price of jute consequent to the difficult situation which developed in 1980-81, when, in the face of a carry-over stock of 32.3 lakh bales and a production level of 81.6 lakh bales, consumption did not show significant increase over the previous year.

15. Production of jute in 1981-82, as per current official estimate, is placed at 84.00 lakh bales as against 81.60 lakh bales in 1980-81. Domestic consumption of jute in 1981-82 is placed at 75.88 lakh bales (72.82 lakh bales by mills and allowing 3.00 lakh bales as extra-factory consumption), while exports accounted for another 2.94 lakh bales, placing the total disposal at 78.76 lakh bales. This implies that stocks at the end of 1981-82 season should have shown an increase of 5.24 lakh bales. However, the stocks with the mills and JCI for which firm estimates are available, showed a decline from 28.25 lakh bales to 24.61 lakh bales. This clearly then means that the stocks with private trade should have increased by 8.88 lakh bales in 1981-82. But the variations in the last 6 years or so have never exceeded a figure of 3.55 lakh bales and even the absolute level of stocks with the private trade had not exceeded a figure of 4.75 lakh bales (Table 11). The jute balance for 1981-82 would therefore need re-examination.

16. With the demand for jute goods stagnating and the prices of jute relative to paddy in 1981-82 remaining low, coupled with adverse weather conditions in 1982-83 in West Bengal, Bihar and Orisa, there was a shrinkage in area for the second year in succession. According to the All-India First Estimate of Jute, decline in area in 1982-83 is placed at about 10 per cent. Drought conditions which persisted during the post-sowing period in West Bengal and Bihar and cyclone followed by drought in Orissa accentuated the impact of shrinkage in area in as much as the jute and mesta crop in the current year may not exceed 65 lakh bales.

17. Consumption of raw jute by mills in 1982-83 is likely to show an improvement of about 2 lakh bales over the preceding year's actual consumption of about 73 lakh bales. Allowing 3.5 lakh bales for extra-factory consumption and exports, total disposal of raw jute would come to about 79 lakh bales. Even if there are some unrecorded imports of raw jute, the excess of

demand over this year's estimated production would lead to a decumulation of the inventories of raw jute during the year. The 1982-83 season therefore, may close with a stock which is roughly half of what it was at the end of 1981-82.

18. Market prices of raw jute during September, 1982 tended to touch the statutory minimum levels in most of the markets in Bihar, whereas, in Assam, prices either ruled at the minimum levels or were a shade lower than the statutory levels. Decline in production and also in the total availability in 1982-83, coupled with the possibility of shortage of quality fibre, led to prices firming up in the month of October, 1982, particularly in Orissa and West Bengal. For example, prices of W5 jute rose from Rs. 175 to Rs. 180 per quintal in Nowgong (Assam), from Rs. 190 to Rs. 228 per quintal in Dhanpur (Orissa) and from Rs. 185 to Rs. 200 per quintal in Belakoba (West Bengal). In November and December, 1982, with the revival of manufacturing activities, demand for raw jute picked up and prices showed a further rise. The index number of wholesale prices of raw jute at 170.1 in December, 1982 was 23.1 percent higher than the corresponding index a year ago. This firmness in prices right in the midst of the peak marketing season resulted in lower purchases, particularly support purchases, by the Jute Corporation of India. Total purchases by JCI till the middle of December, 1982 during the current season were 8.46 lakh bales as against 15.96 lakh bales during the corresponding period last year. Since market arrivals of the crop have dwindled and prices are ruling higher than the minimum level, additional purchases at support prices in the remaining part of the season will not be substantial.

19. Price changes have, however, not been uniform over all the jute growing areas. In West Bengal, market prices continued to rule a shade above the statutory minimum levels till September, 1982 and went up to levels Rs. 18 and Rs. 23 per quintal higher than the minimum levels in October and November, 1982. In Bihar and Orissa, market prices ruled at Rs. 2 to Rs. 3 per quintal above the support levels till September, 1982 and thereafter by Rs. 15 and Rs. 49 per quintal, respectively. In Assam, however, market prices dipped to levels below the support price in September 1982; thereafter prices showed only a marginal rise and even in November, 1982, they were higher than the support levels by Rs. 5 per quintal only (Table 12). This phenomenon of fall in prices below the statutory minimum level indicates the weakness of the marketing infrastructure and the system responsible for the enforcement of the statutory provision. This also highlights the need for intensification of the purchase operations of the Jute Corporation of India either through cooperatives or its own centres in the State. The cooperative structure in Assam is reported to be weak. Only

5 cooperative centres made purchases of jute for the JCI in 1981-82 and 7 in 1982-83. In Assam 15.6 per cent of raw jute purchased by the JCI was through cooperatives while in Bihar and West Bengal, the corresponding percentage was 56.9 and 35.4 respectively (Table 14). Strengthening of cooperative structure will help the JCI in intensifying the purchase operations without unduly increasing its overheads. The Commission therefore, recommends that the arrangements for the purchase of jute, particularly in the interior areas of the State by the JCI be further improved and the cooperative structure in the State be also strengthened.

20. In 1981-82, Jute Corporation of India increased its purchases under support operations to a record level of 17.59 lakh bales, for maintaining prices in the context of a good crop, slackness in purchases and consumption of jute by mills, and a large total carry over stock. During 1982-83, on account of lower purchases and higher off-loading, stocks with JCI fell to 11.56 lakh bales by the end of November, 1982 (Table 14) During the three years, 1979-80 to 1981-82, year-end stocks with JCI went upto as high levels as 14 to 15 lakh bales as compared to 8.00 lakh bales at the end of 1978-79. Purchase operations and stock-holding by the Corporation served to reduce the inter-year variations in the prices of jute and helped to sustain the fibre's economy.

21. The latest estimates of cost of production of jute available from the Comprehensive Scheme pertain to West Bengal for 1979-80 and 1980-81. The cost of cultivation per hectare has been estimated at Rs. 3238.78 for 1979-80 and at Rs. 3405.08 for 1980-81. At these levels, the cost of cultivation represents increase of the order of 17.9 and 24.03 per cent respectively over the estimate for 1977-78. The yield per hectare on the sample farms averaged at 15.10 quintals in 1979-80 and 16.76 quintals in 1980-81. The cost of production for 1980-81 worked out at Rs. 179.88 as against Rs. 198.31 for 1979-80 despite the cost of cultivation being higher in 1980-81 than that in 1979-80. Due to substantial annual variations, there are difficulties in relying upon annual cost data. Analysis of the cost of production in West Bengal at constant input price during the period 1973-74 to 1980-81 indicates that for obtaining the same level of yield, more inputs are required now than in the early seventies. In particular, between the triennium

ending 1975-76 and 1979-80 (both of which contained two main samples and one sub-sample observations), there was a very high increase in human and bullock labour use intensities, not reflecting in yield increases. This could be either due to the shift in the sample from more efficient areas to less efficient areas or due to the increased intensifying of cropping in the later years as compared with the earlier period, in the jute growing areas. (Table 15)

22. With the large inter-year variations in jute yield, estimates of cost of production of any single year do not provide a stable basis for price policy decisions. Taking the two years 1979-80 and 1980-81, the variable input price index in case of West Bengal has shown an increase of 17.8 per cent over the first and 9.9 per cent over the second. Adjusting the cost estimates for 1979-80 and 1980-81 for the increase in the variable input prices since then, the cost of production would average at Rs. 208.98 per quintal, as compared to a figure of Rs. 193.08 which is derived if only the latest available cost of production estimate for 1980-81 is updated for input price changes. Updated estimates for other States are lower.

23. Considering the demand and supply situation, cost of production and other factors, the Commission recommends that the statutory minimum price for W grade of jute in Assam for the 1983-84 season be fixed at Rs. 185* per quintal. The corresponding prices for other varieties and grades of jute may be fixed by the Jute Commissioner in the light of normal market differential. Considering the variety and grade composition of the crop run in West Bengal, the realisation to the farmer at the suggested price would work out to Rs. 216.00 per quintal of raw jute.

Sd/-

(YOGINDER K. ALAGH)

Sd/-

(CHAUDHARI RANDHIR SINGH)

Sd/-

(M. V. GEORGE)

Sd/-

(T. N. DHAR)

February 3, 1983

*Chaudhari Randhir Singh Member, recommends a price of Rs. 245.00 per quintal for W3 grade of jute in Assam.

TABLES

TABLL 1
Internal Consumption and Export of Jute Goods

(,000 tonnes)

Years (July—June)	Hessian		Sacking		Total		Internal consumption plus Exports
	Internal Consumption	Export	Internal Consumption	Export	Internal Consumption	Export	
1	2	3	4	5	6	7	
1971-72	74.4	276.3	433.6	115.0	579.2	669.6	1248.8
1972-73	74.3	256.4	394.3	91.0	547.9	578.4	1126.3
1973-74	76.8	225.2	342.5	91.7	487.7	561.9	1049.6
1974-75	79.3	265.2	387.5	130.4	536.1	583.2	1119.3
1975-76	84.3	248.1	605.3	79.0	778.0	516.3	1294.3
1976-77	96.2	225.4	499.2	63.2	701.8	426.1	1127.9
1977-78	98.1	281.2	480.8	61.0	692.8	520.5	1213.3
1978-79	97.1	153.8	502.8	37.2	721.8	316.7	1038.5
1979-80	101.8	271.1	588.5	65.9	833.6	483.8	1317.4
1980-81	123.7	263.2	643.2	77.0	922.9	444.2	1367.1
1981-82	123.3	228.6	659.2	62.7	936.3	386.5	1322.8
1982-83							
July, 82	8.3	16.5	41.6	2.0	60.6	24.2	84.8
August	7.8	15.4	48.2	6.0	66.6	27.6	94.2
September	8.2	20.6	51.0	4.0	72.2	30.8	103.0
October	8.3	18.8	73.5	4.5	93.9	28.6	122.5

Source : Office of the Jute Commissioner, Ministry of Commerce.

TABLE 2
Exports of Jute Manufactures from India
(,000 tonnes)

Year (July-June)	Hessian	Sacking	Carpet Backing	Others	Total Jute Manu- factures
1971-72	276.3	115.0	225.6	52.7	669.6
1972-73	256.4	91.0	162.6	68.4	578.4
1973-74	225.2	91.7	170.3	74.7	561.9
1974-75	265.2	130.4	119.8	67.8	583.2
1975-76	248.1	79.0	149.7	39.5	516.3
1976-77	225.4	63.2	108.4	29.1	426.1
1977-78	281.2	61.0	133.3	45.0	520.5
1978-79	153.8	37.2	101.8	23.9	316.7
1979-80	271.1	615.9	166.4	30.4	483.8
1980-81	263.2	77.0	74.8	29.2	444.2
1981-82	228.6	62.7	74.1	21.1	386.5
1982-83					
July, 82	16.5	2.0	4.6	1.1	24.2
August	15.4	6.0	4.1	2.1	27.6
September	20.6	4.0	4.5	1.7	30.8
October	18.8	4.5	4.0	1.3	28.6

Source : Office of the Jute Commissioner, Ministry of Commerce.

TABLE 3
Exports of Carpet Backing to U.S.A.

Year	Exports of Carpet Backing to U.S.A.			Percentage Share in Total Exports of Carpet Backing to U.S.A.	
	Total	From India	From Bangla- desh	India	Bangia- desh
	(.....,000 tonnes.....)				
1	2	3	4	5	6
1970	147.8	112.3	32.3	76.0	21.9
1971	193.1	153.6	33.3	79.6	17.2
1972	200.4	160.9	34.4	80.3	17.2
1973	180.3	123.6	51.3	68.6	28.4
1974	170.7	119.2	48.4	69.9	28.4
1975	108.0	69.5	37.7	64.4	34.9
1976	134.6	78.6	55.6	59.4	41.3
1977	132.8	99.7	52.3	65.2	34.2
1978	132.5	76.0	54.8	57.4	41.4
1979	117.7	64.1	52.1	54.5	44.3
1980	92.1	44.7	45.8	48.5	49.7
1981	90.5	38.8	51.7	42.9	57.1
1982 (Jan-May)	18.8	5.5	13.3	29.3	70.7

Source : Monthly Summary of Jute & Gunny Statistics Indian Jute Mills Association.

TABLE 4
Production of Jute Manufactures

Year (July-June)	('000 tonnes)			
	Hessian	Sacking	Carpet Backing	Total Jute Ma- nufactures
1	2	3	4	5
1971-72	350.6	560.6	232.5	1,281.3
1972-73	354.4	501.3	162.7	1,752.3
1973-74	311.3	436.9	175.9	1,068.6
1974-75	342.4	448.7	124.4	1,048.7
1975-76	282.7	620.0	150.8	1,136.0
1976-77	344.5	592.1	119.2	1,186.7
1977-78	358.1	524.2	127.3	1,168.5

	1	2	3	4	5
1978-79		281.5	531.2	117.3	1,074.0
1979-80		374.5	665.7	131.2	1,349.3
1980-81		394.6	745.7	73.8	1,406.1
1981-82		337.3	724.4	72.8	1,303.9
1982-83					
July		22.2	56.1	4.4	95.1
August		23.0	56.6	5.2	97.0
September		27.5	60.7	5.7	107.2
October		27.7	61.3	4.7	107.1

Source : Office of the Jute Commissioner, Ministry of Commerce.

TABLE 5
Consumption of Jute and Mesta by Mills

('000 bales of 180 Kgs. each)

Month	1971- 72	1972- 73	1973- 74	1974- 75	1975- 76	1976- 77	1977- 78	1978- 79	1979- 80	1980- 81	1981- 82	1982- 83
1	2	3	4	5	6	7	8	9	10	11	12	13
July	619	603	543	583	666	503	481	526	684	698	656	536
August	576	613	569	587	638	467	488	533	660	668	600	553
September	464	624	540	569	665	510	558	546	624	687	636	623
October	590	549	540	562	580	552	537	589	626	618	601	621
November	612	609	568	624	641	607	588	647	635	694	618	..
December	710	596	671	618	604	613	612	670	688	727	648	..
January	644	549	279	159	636	616	628	155	688	646	610	..
February	622	536	382	185	627	583	613	136	676	632	575	..
March	685	603	547	642	640	632	615	634	701	673	597	..
April	650	553	444	601	622	598	570	584	661	628	611	..
May	622	572	593	612	573	587	556	597	624	653	558	..
June	567	499	578	579	521	524	560	612	662	636	558	..
Total	7,381	6,906	6,260	6,321	7,413	6,792	6,805	6,229	7,931	7,993	7,282	..

Source : Office of the Jute Commissioner, Ministry of Commerce.

TABLE 6

Area under Jute and Mesta

('000 Hectares)

State	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	
1	2	3	4	5	6	7	8	9	10	11	12	
West Bengal												
Jute . . .	367	419	370	335	441	479	538	504	610	506	452	(513)
Mesta . . .	48	69	48	32	32	42	45	47	44	28	21	(28)
Total . . .	415	488	418	367	473	521	583	551	654	434	473	(541)
Assam												
Jute . . .	134	149	121	94	105	100	115	115	112	110	110	(106)
Mesta . . .	8	13	12	10	11	11	12	13	12	12	10	(11)
Total . . .	142	162	133	104	116	111	127	128	124	122	120	(117)
Bihar												
Jute . . .	131	144	105	99	126	150	161	157	155	142	141	(160)
Mesta . . .	31	39	28	29	31	36	37	33	34	29	29	(37)
Total . . .	162	183	133	128	157	186	198	183	189	171	170	(19)
Orissa												
Jute . . .	42	57	47	38	47	49	49	46	44	53	46	(53)
Mesta . . .	26	35	37	37	38	37	37	38	42	43	32	(43)
Total . . .	68	92	84	75	85	86	86	84	86	96	78	(96)
Tripura												
Jute . . .	8	8	6	6	6	4	4	4	4	4	4	(4)
Mesta . . .	10	11	9	10	10	9	11	10	10	10	9	(9)
Total . . .	18	19	15	16	16	13	15	14	14	14	13	(13)
Andhra Pradesh												
Mesta . . .	101	107	88	95	110	112	120	126	102	93	78	(88)
Uttar Pradesh												
Jute . . .	10	9	9	8	7	11	11	9	11	8	5	(8)
All India												
Jute . . .	700	793	664	585	737	797	884	834	941	827	762	(849)
Mesta . . .	293	370	319	330	352	365	380	383	359	327	262	(305)
Total . . .	993	1,163	983	915	1,089	1,162	1,264	1,217	1,300	1,154	1,024	(1,154)

NOTES : 1. Figures for 1981-82 are final estimates and those for 1982-83 are first estimates.

2. Figures inbrackets are the corresponding first estimates of 1981-82.

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

TABLE 7
Production of Jute and Mesta

('000 bales of 180 Kgs.)

State	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5	6	7	8	9	10	11
<i>West Bengal</i>										
Jute	2,712	3,673	2,608	2,686	3,473	3,465	4,124	3,778	4,453	4,473
Mesta	234	365	271	172	177	244	250	272	259	149
Total	2,946	4,038	2,879	2,858	3,650	3,709	4,374	4,050	4,702	4,622
<i>Assam</i>										
Jute	1,010	1,136	825	723	704	545	899	885	913	951
Mesta	32	48	43	39	46	46	48	52	49	52
Total	1,042	1,184	868	762	750	591	947	937	962	1,003
<i>Bihar</i>										
Jute	688	842	546	612	621	772	840	933	698	83
Mesta	149	201	116	136	139	166	179	187	184	150
Total	837	1,043	662	748	760	938	1,019	1,120	883	984
<i>Orissa</i>										
Jute	382	401	333	291	405	420	439	320	310	410
Mesta	131	175	176	201	187	200	204	187	209	2204
Total	513	576	509	492	592	620	643	507	519	630
<i>Tripura</i>										
Jute	59	49	50	46	37	22	35	35	29	31
Mesta	57	60	55	60	60	57	76	70	59	59
Total	116	109	105	106	97	79	111	105	88	90
<i>Andhra Pradesh</i>										
Mesta	418	438	524	669	922	861	882	828	676	748
<i>Uttar Pradesh</i>										
Jute	88	79	75	46	69	97	91	79	72	77
<i>All India</i>										
Jute	4,978	6,220	4,471	4,440	5,353	5,361	6,470	6,072	6,508	6,817
Mesta	1,112	1,456	1,363	1,474	1,746	1,793	1,863	1,890	1,652	1,583
Total	6,090	7,676	5,834	5,914	7,099	7,154	8,333	7,962	8,160	8,400

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

TABLE 8
Yield per hectare of Jute and Mesata

State	(Kilogram)									
	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5	6	7	8	9	10	11
<i>West Bengal</i>										
Jute	1,329	1,580	1,268	1,445	1,419	1,303	1,380	1,349	1,311	1,591
Mesta	880	948	1,018	981	1,000	1,040	1,003	1,042	1,060	958
<i>Assam</i>										
Jute	1,353	1,372	1,233	1,387	1,203	985	1,408	1,385	1,467	1,556
Mesta	687	674	659	735	731	728	737	720	735	780
<i>Bihar</i>										
Jute	942	1,052	938	1,110	890	928	907	1,120	812	1,057
Mesta	855	935	736	854	804	819	861	1,020	974	931
<i>Orissa</i>										
Jute	1,651	1,260	1,276	1,383	1,566	1,553	1,603	1,252	1,268	1,392
Mesta	921	897	861	968	896	973	1,001	886	896	921
<i>Tripura</i>										
Jute	1,269	1,121	1,406	1,354	1,159	1,080	1,080	1,575	1,305	1,395
Mesta	1,026	1,026	1,065	1,196	1,113	1,166	1,166	1,260	1,062	1,062
<i>Andhra Pradesh</i>										
Mesta	744	737	1,072	1,266	1,503	1,386	1,328	1,326	1,193	1,448
<i>Uttar Pradesh</i>										
Jute	1,593	1,612	1,446	1,085	1,688	1,579	1,529	1,580	1,440	1,733
<i>All-India</i>										
Jute	1,280	1,312	1,211	1,367	1,307	1,210	1,308	1,311	1,245	1,484
Mesta	684	708	769	805	894	884	879	888	828	871

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

TABLE 9
Compound Rates of Growth of Raw Jute Area, Production and Yield

State	(Per cent)	
	1967-68 to 1981-82	1972-73 to 1981-82
1	2	3
<i>Assam</i>		
Area	-1.61	-2.08
Production	-1.52	-0.80
Yield	0.10	1.30
<i>Bihar</i>		
Area	1.22	2.86
Production	2.29	2.63
Yield	1.01	-0.27
<i>Orissa</i>		
Area	0.21	0.59
Production	0.94	-0.06
Yield	0.73	-0.69
<i>West Bengal</i>		
Area	2.58	5.33
Production	3.90	5.59
Yield	1.28	0.25
<i>All-India</i>		
Area	1.40	3.19
Production	2.32	3.58
Yield	0.75	0.22

NOTE : All India Compound Rates of Growth are based on the respective Indices of Area, Production and Yield.

Source : For basic data on Area, Production and Yield : Directorate of Economics & Statistics Ministry of Agriculture. The Growth Rates were calculated in the Commission.

TABLE 10

End-Month Stocks of Jute Goods with Mills
('000 tonnes)

Period (July-June)	Hessian Sacking	Carpet Backing	Others	Total	
				4	5
1	2	3	4	5	6
1979-80	34.6	31.2	20.9	15.1	101.8
1980-81	46.9	53.7	14.1	20.8	135.5
1981-82	34.0	55.9	8.6	17.9	116.4
1982-83					
July, 82	31.9	68.0	8.0	18.8	126.7
August	31.7	70.1	8.9	18.3	129.0
September	30.6	75.7	9.7	17.2	133.2
October	31.2	59.1	10.1	17.2	117.6
November	43.7	49.2	10.4	13.9	117.1

Source : Jute Commissioner, Ministry of Commerce

TABLE 11
Balance Sheet for Jute and Mesta
(In Lakh bales of 180 Kgs. each).

	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83P
1	2	3	4	5	6	7	8
I. Supply							
1. Opening Stock							
With Mills	7.60	6.00	4.30	11.75	13.25	14.14	9.52
With JCI . . . . .	..	1.00	..	8.00	14.50	14.11	15.09
Others	2.40	..	1.20	4.75	4.50	2.50	4.00
Total	10.00	7.00	5.50	24.50	32.25	30.75	28.61
2. Production							
Jute	53.53	53.61	64.70	60.72	65.08	68.17	53.00
Mesta	17.46	17.93	18.63	18.90	16.52	15.83	13.00
Total	70.99	71.54	83.33	79.62	81.60	84.00	66.00
3. Imports							
Total Supply (1+2+3)	80.99	78.54	88.83	114.12	118.85	114.75	94.61
II. Disposal							
(1) Consumption							
By Mills	68.00	68.00	62.05	79.26	79.93	72.82	75.00
Domestic	2.50	2.50	3.00	3.00	3.07	3.00	3.00
Total	70.50	70.50	65.05	82.26	83.00	75.82	78.00
(2) Exports							
	0.50	..	..	..	..	2.94	0.50
Total Disposal (1+2)	71.00	70.50	65.05	82.25	85.50	78.76	78.50
III. Calculated Carryover Stocks.							
	9.99	8.04	23.33	31.87	35.85	35.99	16.11

P : Provisional.

Sources : 1. For Production, Directorate of Economics and Statistics Ministry of Agriculture.

2. For figures other than production, *Monthly Summary of Jute and Gunny Statistics*, Indian Jute Mills Association and Office of the Jute Commissioner, Ministry of Commerce.

TABLE 12
Month-end Wholesale Prices of Raw Jute

(Rs. per quintal)

State/Centre	Year	July	August	September	October	November	December	January	February	March	April	May	June
1		2	3	4	5	6	7	8	9	10	11	12	13
<i>Assam</i>													
Nowgong	1978-79	190.00	165.00	162.50	170.00	167.50	167.50	165.00	155.00	162.50	160.00	168.75	147.50
	1979-80	170.00	177.50	N.A.	N.A.	N.A.	N.A.	155.00	162.50	182.50	157.50	N.A.	N.A.
	1980-81	N.A.	N.A.	137.50	126.50	N.A.	120.00	150.00	157.50	135.00	136.00	135.00	N.A.
	1981-82	150.00	152.50	155.00	150.00	145.00	N.A.	N.A.	170.00	165.00	165.00	185.00	205.00
	1982-83	200.00	190.00	175.00	180.00	180.00	180.00II	..	..	..	..	..	..
<i>Bihar</i>													
Purnea	1978-79	210.00	152.00	155.00	160.00	160.00	160.00	150.00	N.A.	150.00	168.00	153.00	172.00
	1979-80	172.00	165.00	163.00	N.A.	175.00	N.A.	165.00	N.A.	N.A.	N.A.	N.A.	N.A.
	1980-81	155.00	N.A.	N.A.	N.A.	163.00	165.00	165.00	N.A.	N.A.	N.A.	N.A.	N.A.
	1981-82	N.A.	N.A.	N.A.	185.00	187.00	192.00	196.00	197.00	185.00	188.00	190.00	190.00
	1982-83	190.00	200.00	190.00	190.00	200.00	200.00	..	..	..	..	..	..
<i>Orissa</i>													
Danpur	1978-79	185.50	N.T.	185.00	193.00	200.00	129.00	192.00	183.00	189.00	180.00	182.50	196.00
	1979-80	196.00	200.00	185.00	179.00	178.00	176.50	169.50	170.50	169.00	184.00	178.00	180.00
	1980-81	176.00	170.00	176.00	174.00	174.75	178.00	178.50	182.50	182.00	184.00	184.00	184.00
	1981-82	184.00	180.00	188.50	188.50	188.50	188.50	188.50	188.50	190.00	..	190.00	190.00
	1982-83	191.00	191.00	192.00	228.00	241.67	..	..	..	..	..	..	..
<i>Tripura</i>													
Agartala	1978-79	205.00	175.00	165.00	170.00	170.00	165.00	145.00	137.00	138.00	135.00	144.00	170.00
	1979-80	172.00	170.00	150.00	135.00	135.00	130.00	N.T.	N.T.	N.T.	..	..	..
	1980-81	100.00	125.00	N.T.	125.00	120.00	120.00	160.00	N.T.	N.T.	N.T.	N.T.	N.T.
	1981-82	N.T.	137.00	135.00	175.00	175.00	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.	N.T.
	1982-83	165.00	170.00	N.A.	175.00	175.00II	..	..	..	..	..	..	..
<i>West Bengal</i>													
Belakoba	1978-79	225.00	170.00	175.00	187.50	187.50	175.00	175.00	172.50	..	165.00	162.50	160.00
	1979-80	200.00	212.50	200.00	187.50	187.50	185.00	212.50	187.50	175.00	162.50	N.T.	N.T.
	1980-81	160.00	165.50	165.50	165.50	166.00	166.00	165.50	165.50	165.50	N.T.	N.T.	N.T.
	1981-82	182.00	183.00	185.00	185.00	185.00	185.00	185.00	185.00	185.00	N.T.	N.T.	N.T.
	1982-83	175.00	185.00	185.00	200.00	205.00	..	..	..	..	..	..	..
Calcutta	1978-79	225.00	205.00	205.00	225.00	217.00	212.00	210.00	..	215.00	208.00	218.00	235.00
	1979-80	230.00	238.00	218.00	206.00	206.00	206.00	208.00	206.00	206.00	206.00	206.00	206.00
	1980-81	217.50	217.50	217.00	217.50	217.50	217.50	217.50	217.50	217.50	217.50	217.50	217.50
	1981-82	240.00	240.00	240.00	240.00	240.00	240.00	240.00	240.00	240.00	240.00	240.00	255.00
	1982-83	240.00	245.00	245.00	245.00	245.00	245.00II	..	..	..	..	..	..

N.T. : No Transaction

N.A. : Not Available, N.Q. : No. Quotation.

NOTES : Prices relate to W5 grade of jute.

Sources : Directorate of Economics and Statistics, Ministry of Agriculture for Nowgong, Purnea, Agartala and Calcutta and Directorate of Jute Development for Danpur and Belakoba.

TABLE 13

Monthly Index Numbers of wholesale Prices of Raw Jute

(Base : 1970-71 = 100)

Month	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
1	2	3	4	5	6	7	8	9	10
July	98.9	114.2	120.4	158.7	162.6	147.2	128.6	134.8	150.3
August	106.4	113.3	115.9	151.1	144.3	152.2	125.6	142.0	149.7
September	125.5	113.2	114.7	135.1	135.9	148.0	125.8	139.6	147.7
October	119.3	112.2	114.5	148.0	141.8	134.6	129.2	135.9	154.1
November	112.0	112.5	118.7	155.5	145.7	130.2	132.1	136.8	164.0
December	108.0	116.3	126.1	151.7	141.4	132.0	132.2	138.2	170.1
January	107.8	126.1	132.8	148.5	138.0	135.8	132.5	139.5	..
February	105.9	132.4	139.6	149.9	137.6	136.2	130.9	141.8	..
March	106.0	131.5	142.0	149.8	137.3	132.3	130.4	144.0	..
April	106.3	133.8	144.0	156.2	135.2	129.1	131.2	147.1	..
May	110.9	132.1	143.6	158.9	136.0	127.6	133.2	149.7	..
June	112.9	128.1	147.6	158.8	142.6	128.4	129.5	154.2	..

P. : Provisional.

Source : Office of the Economic Adviser, Ministry of Industry.

TABLE 14

Purchases of Jute by Jute Corporation of India

('000 bales of 180 Kgs. each)

State	Year	August	September	October	November	December	Total Purchases July to June
1	2	3	4	5	6	7	8
Andhra Pradesh	1972-73	..	..	..	..	0.5	0.5
	1973-74	..	1.4	4.3	3.5	4.3	50.2
	1974-75	..	..	..	..	2.2	5.5
	1975-76	..	(Neg.)	0.3	0.4	0.2	0.9
	1976-77	(Neg.)	4.6	3.0	3.0	7.2	21.8
	1977-78	(Neg.)	1.1	6.0	6.0	2.2	15.6
	1978-79	(Neg.)	0.7	1.6	12.7	12.2	38.5
	1979-80	..	..	3.9	16.1	17.3	66.9
	1980-81	..	..	0.6	7.2	8.5	31.2
	1981-82	..	1.1	4.6	12.2	13.8	39.8
Assam	1972-73	..	0.2	0.9	5.1	5.4	11.6
	1973-74	9.3	17.1	27.0	42.4	8.3	129.6
	1974-75	23.1	64.9	17.5	7.1	6.4	131.6
	1975-76	4.6	28.1	343.3	20.6	11.7	99.4
	1976-77	4.7	52.5	46.1	14.4	0.2	117.9
	1977-78	..	..	0.2	0.4	0.1	0.7
	1978-79	7.3	37.8	48.0	36.3	22.2	159.7
	1979-80	7.2	35.6	21.7	31.8	20.1	130.7
	1980-81	30.5	57.7	45.3	28.2	24.1	189.3
	1982-82	21.1	60.6	85.0	50.5	29.6	246.3
Bihar	1972-73	..	1.7	3.2	5.4	4.8	15.1
	1973-74	5.4	12.1	20.7	28.6	12.0	117.8
	1974-75	1.2	15.0	10.3	4.2	7.6	36.6
	1975-76	1.4	12.7	22.5	20.5	10.1	67.5
	1976-77	7.2	39.4	37.9	26.8	1.3	112.9

TABLE 14—(Concluded)

('000 bales of 180 Kgs. each)

State	Year	August	September	October	November	December	Total purchases July to June
1	2	3	4	5	6	7	8
	1977-78	(Neg.)	5.0	16.7	1.7	1.2	25.4
	1978-79	11.5	41.9	53.4	43.9	18.1	200.0
	1979-80	2.2	47.3	46.2	78.1	41.5	263.2
	1980-81	11.0	57.5	67.4	46.9	41.9	324.7
	1981-82	8.3	37.8	62.8	47.1	51.7	269.0
	1982-83	2.5	..	61.4	4.3	..	69.0*
Orissa	1972-73	..	..	..	1.4	1.0	2.4
	1973-74	..	..	4.4	5.1	2.9	22.1
	1974-75	..	..	4.2	7.3	4.5	23.7
	1975-76	..	0.7	3.8	2.8	1.9	9.2
	1976-77	(Neg.)	1.4	4.1	0.5	0.4	10.9
	1977-78	(Neg.)	0.2	0.7	0.1	(Neg.)	1.0
	1978-79	0.1	0.2	0.8	0.2	0.2	1.9
	1979-80	..	0.1	1.2	3.7	2.1	8.2
	1980-81	..	0.8	2.7	5.3	2.2	11.6
	1981-82	0.2	12.6	30.0	25.5	15.3	82.1
	1982-83	..	..	0.7	..	..	0.7*
Tripura	1972-73	..	..	0.2	1.4	1.0	2.6
	1973-74	..	0.8	4.7	4.3	4.0	20.0
	1974-75	0.1	2.5	1.5	2.2	4.9	16.8
	1975-76	1.1	4.4	9.7	9.6	6.1	31.7
	1976-77	0.4	3.7	4.5	5.1	0.8	14.7
	1977-78	..	(Neg.)	1.1	0.5	1.8	3.9
	1978-79	0.2	0.8	0.5	2.6	6.8	19.9
	1979-80	0.1	2.4	6.4	21.1	17.6	56.8
	1980-81	..	0.4	2.9	11.1	8.1	32.5
	1981-82	0.1	1.2	9.6	13.2	15.5	50.2
	1982-83	0.8	..	14.5	10.1	..	28.4*
West Bengal	1972-73	..	3.0	7.2	32.1	14.8	57.1
	1973-74	7.6	31.7	73.3	102.6	76.0	384.1
	1974-75	16.6	109.2	82.4	24.5	40.2	326.8
	1975-76	13.4	60.4	121.0	108.4	60.9	372.1
	1976-77	19.9	188.5	218.7	101.5	6.4	535.2
	1977-78	(Neg.)	2.9	15.0	2.9	(Neg.)	20.8
	1978-79	20.9	87.4	85.8	103.4	63.3	406.1
	1979-80	27.2	72.5	72.0	121.5	35.1	340.1
	1980-81	57.5	166.2	103.7	85.9	36.6	470.7
	1981-82	76.7	242.3	338.7	244.7	127.3	1089.8
	1982-83	33.9	..	514.7	47.1	..	614.6*
All India	1972-73	..	4.9	11.5	45.4	27.5	89.3
	1973-74	22.3	63.1	134.4	186.5	107.5	724.8
	1974-75	41.0	191.6	115.9	45.3	65.8	561.0
	1975-76	20.5	106.3	191.6	162.3	90.9	580.8
	1976-77	32.2	290.1	314.3	155.8	16.3	813.4
	1977-78	..	9.2	40.0	11.6	5.3	67.8
	1978-79	40.0	168.8	191.7	200.5	123.8	830.8
	1979-80	36.7	157.9	151.4	227.6	134.8	868.5
	1980-81	99.0	282.6	222.7	185.3	122.1	1061.9
	1981-82	106.5	355.5	530.7	394.5	243.9	1759.3
	1982-83	55.1	..	699.0	67.8	..	846.1*

* Purchases reported upto 18th December, 1982.

Source : Jute Corporation of India.

TABLE 15

Estimates of Cost of Cultivation/Production and related Data for Jute in West Bengal.

Item	1973-74	1974-75	1975-76	1977-78	1978-79	1979-80	1980-81
1	2	3	4	5	6	7	8
Cost of cultivation per hectare (Rs.)							
A ₁	825.01	977.16	1263.87	1351.99	1668.94	1847.48	1745.80
A ₂	838.18	997.50	1296.68	1390.78	1674.71	1875.03	1777.45
B	1374.82	1649.04	2015.98	2231.34	2523.04	2678.79	2660.81
C	1774.91	2100.76	2444.19	2745.29	3355.29	3238.78	3405.08
Yield per hectare (Quintals)	15.80	16.87	16.77	15.21	14.08	15.10	16.76
Value of the main product per hectare (Rs.)	1961.40	2357.13	2510.49	2918.54	2820.08	2627.28	2984.52
Value of the by-product per hectare (Rs.)	140.68	135.85	219.95	221.21	309.23	244.29	390.25
Cost of production per quintals (Rs.)							
A ₁	43.31	49.87	62.24	74.34	96.57	106.17	80.88
A ₂	44.15	51.07	64.21	76.89	96.98	108.00	82.76
B	78.11	89.70	107.09	132.16	157.23	161.23	135.47
C	103.43	116.47	132.63	165.95	216.34	198.31	179.88

Material and labour Inputs used per hectare of Jute in West Bengal

Item	Unit							
Seed	(Kgs.)	7.91	7.04	7.62	8.29	8.07	7.93	9.85
Fertilizer	(kgs. in terms of nutrients)	8.83	10.90	51.09	20.92	26.41	19.16	21.00
Manure	(Quintals)	30.54	26.38	21.02	32.23	37.40	28.94	34.26
Human Labour	(Man hours)	1537.17	1563.51	1616.62	1849.81	1718.03	1820.15	1840.54
Bullock Labour	(Pair hours)	268.03	213.46	244.17	286.57	282.00	306.34	308.86

Notes : 1. The estimates are provisional.

2. Cost of production per quintal is obtained by dividing the cost of cultivation per hectare (net of the value of by-product) by the yield per hectare.

3. Cost A₁ pertains to the paid-out costs or expenses incurred in cash and kind on material inputs, hired human labour, bullock and machine labour (both hired and owned), etc. When rent paid for leased-in land is added to Cost A₁, one gets Cost A₂, i. e. paid-out costs of a tenant cultivator. Cost B is obtained with the addition to cost A₁ of imputed rental value of owned land and interest on owned fixed capital, and Cost C, with the further addition of the imputed value of the family labour.

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

TABLE 15 (Concluded)

Break-up of Cost of Cultivation per hectare of Jute in West Bengal

Cost Item	1973-74	1974-75	1975-76	1977-78	1978-79	1979-80	1980-81
1	2	3	4	5	6	7	8
<i>Operational Cost</i>							
<i>Human Labour</i>	1200.40	1405.96	1671.44	1835.79	2470.80	2371.41	2458.62
Casual	200.57	207.67	297.41	474.56	618.77	673.53	691.15
Attached	190.89	197.55	207.96	126.10	131.59	84.77	68.70
Family	400.00	451.72	428.22	513.95	832.25	559.99	744.27
Total	791.56	856.94	933.59	1114.61	1582.61	1318.29	1504.12
<i>Bullock Labour</i>							
Hired	13.12	10.63	12.88	23.56	40.41	48.72	82.90
Owned	217.00	306.53	344.60	367.40	422.34	659.08	476.94
Total	230.12	317.16	357.48	390.96	462.75	797.80	559.84
<i>Machine Labour</i>							
Hired	0.42	..	..	..	1.99	2.61	1.34
Owned	..	..	..	..	..	..	..
Total	0.42	..	..	..	1.99	2.61	1.34
<i>Seed</i>	41.32	50.79	49.18	57.88	62.67	64.00	71.44
<i>Fertiliser and Manure</i>							
Fertilizer	29.76	61.26	214.55	85.46	99.29	72.24	90.63
Manure	82.28	85.81	75.36	109.68	165.59	124.30	153.97
Total	112.04	147.07	289.91	195.14	264.88	196.54	244.60
<i>Insecticide</i>	5.05	3.91	0.71	15.73	25.67	19.93	20.65
<i>Irrigation Charges</i>	0.37	1.17	2.90	21.40	20.58	7.35	4.68
<i>Interest on working capital</i>	19.52	28.92	37.67	40.06	49.65	54.89	51.95
<i>Fixed Cost</i>	574.51	694.80	772.75	909.51	884.49	867.37	946.46
Rental value of owned land	496.22	587.40	636.52	747.65	770.41	692.75	794.99
Rent paid for leased-in land	13.18	20.33	32.99	38.78	5.77	27.54	31.65
Land revenue, cesses and taxes	16.14	15.51	13.09	12.86	14.55	11.15	10.92
Depreciation on implements and farm buildings	8.55	7.42	7.56	17.30	15.84	24.91	20.52
Interest on fixed capital	40.42	64.14	82.59	92.92	77.92	111.02	88.38
TOTAL COST	1774.91	2100.76	2444.19	2745.29	3355.29	3238.78	3405.08

TABLE 16

Minimum Support Prices for Jute (Assam Bottom)

Year	Minimum Support Prices for delivery at Calcutta		Minimum Support Prices for Upcountry Markets	
	As recommended by the Commission	As fixed by the Government	As recommended by the Commission	As fixed by the Government for Nowgong (Assam)
1	2	3	4	5
1966-67	93.77	93.77		
1967-68	96.45	107.17		86.46
1968-69	107.17	107.17		..
1969-70	107.17	107.17		86.54
1970-71	107.17	107.17		80.75
1971-72	113.87	113.87		96.45
1972-73	115.00	115.00		100.00
1973-74*	125.00	125.00		113.00
1974-75*			125.00	125.00
1975-76*			135.00	135.00
1976-77*			140.00	135.00(136.00)
1977-78*			136.00@	141.00@
1978-79*			150.00@	150.00@
1979-80*			155.00@	155.00@
1980-81*			160.00@	160.00@
1981-82*			175.00@/£	175.00@
			220.00££	
1982-83			175.00@/£	175.00@
			240.00 ££	

* Statutory minimum prices.

@ Relates to W5 grade of Jute in Assam.

£ Recommended by Chairman & Member Secretary.

££ Recommended by Ch. Randhir Singh, Member.

NOTES :1. For the period from 1966-67 to 1970-71, the Agricultural Prices Commission recommended that the derivative prices for upcountry markets be fixed by the Jute Commissioner with whatever adjustments were considered necessary on account of rationalisation of freight and other incidental charges.

2. For 1971-72, 1972-73 and 1973-74, the Commission recommended that the derivative minimum prices for the respective grades of Jute for the upcountry markets be fixed subject to the proviso that the differential between the minimum support prices in Calcutta and the upcountry markets did not exceed Rs. 17.41 per quintal, Rs. 15.00/quintal and Rs. 12.00 per quintal respectively.

3. For 1974-75, 1975-76 and 1976-77, the Agricultural Prices Commission recommended that the statutory minimum price for Assam Bottom and comparable varieties and grades of Jute be fixed uniformly for all the upcountry markets at Rs. 125.00, Rs. 135.00 and Rs. 140.00 per quintal respectively. The Government fixed the statutory minimum price for Assam Bottom Jute at Rs. 125.00 for 1974-75 and Rs. 135.00 for 1975-76 and 1976-77. The Jute Commissioner however fixed statutory minimum prices for the 1976-77 season in terms of the revised I.S.I. grades; the price fixed for W5 grade of Jute in Assam was Rs. 136.00 per quintal.

**4. REPORT
ON
PRICE POLICY FOR SUGARCANE
FOR
THE 1983-84 SEASON**

PREFACE

The Agricultural Prices Commission, now re-named as Commission for Agricultural Costs & Prices, submitted its Report on Price Policy for Sugarcane for the 1983-84 season in April, 1983. It recommended a statutory minimum price of Rs. 14.00 per quintal for a basic recovery level of 8.5 percent, subject to a proportional premium for every 0.1 percentage point increase in recovery above that level. The Commission also recommended an additional amount of Rs. 2.00 per quintal as transport cost from the field to the factory.

After considering all the relevant factors, the Government fixed the statutory minimum sugarcane price for 1983-84 at Rs. 13.50 per quintal linked to 8.5 percent recovery as against Rs. 13.00 per quintal in 1982-83. The Government felt that this price covered the cost of production and also left a reasonable margin of profit to the cane growers. Another consideration which weighed with the Government in this regard was that the sugar factories were generally paying prices much higher than the statutory minimum on the advice of the State Governments. On the other hand, Government have to maintain a delicate balance between the need for farmers to get a remunerative cane price and for the consumers to get sugar at a reasonable price. Since the statutory minimum cane price is relevant for purposes of fixing the price of levy sugar which is supplied to millions of consumers under the Public Distribution System, the statutory minimum level fixed was found to be adequate.

M. SUBRAMANIAN

Secretary to the Government of India

REPORT ON PRICE POLICY FOR SUGARCANE FOR THE 1983-84 SEASON

In this Report, the Agricultural Prices Commission presents its views on price policy for sugarcane for the 1983-84 season. It recommends that—

- (a) (i) the statutory minimum price for sugarcane (excluding the transport cost) for the 1983-84 season be fixed at Rs. 14.00 per quintal for a basic recovery of 8.5 per cent, subject to a proportional premium for every 0.1 per cent increase in recovery above that level (which, taking into account the transportation cost of Rs. 2 per quintal recommended below, comes to around Rs. 18.50* per quintal at 10.0 per cent recovery); and
(ii) in the context of the price being fixed at the factory gate, an additional amount of Rs. 2 per quintal of cane be paid to the grower towards the costs incurred by him in transporting the cane from his field to the factory gate/purchase centre;
- (b) both in the interest of the orderly development of the sugar economy as also in the larger interest of the cane grower, the system of "State advised" cane prices be dispensed with;
- (c) the installation of new capacity in sugar industry be allowed in such a way as may put it in reasonable proportions to the cane production in various States;
- (d) policies for controlled surface water application and conjunctive use be strictly enforced in areas susceptible to loss of land due to water logging, and these lands be identified on a priority basis through appropriate water table and aquifer studies;
- (e) in order to provide for fluctuations in the sugarcane and sugar economy, a buffer stock level of 8-10 lakh tonnes be planned for;
- (f) the agencies concerned with schemes like the National Rural Employment Programme, the Food for Work Programme, the Special Nutrition Programme and the Mid-day Meals Programme, should consider integration of sugar supplies in these schemes in the balance period of the Sixth Plan, and attempts be also made to more purposively make available and promote sugar supplies in the public distribution system in the rural areas; and
- (g) an appropriate price and regulatory framework be developed for khandsari units.

2. Acreage under sugarcane which had already entered the upswing of the cane cycle in 1980-81, registered a further expansion of 19.7 per cent from 26.67 lakh hectares in 1980-81 to 31.92 lakh hectares in 1981-82. This resulted from a sharp increase in the prices of cane realised by the grower during 1979-80 and 1980-81 and favourable weather conditions at the time of planting of the 1981-82 crop. All the sugarcane growing States contributed to the acreage expansion in 1981-82, but a major part came from Uttar Pradesh where area increased from 13.63 lakh hectares in 1980-81 to 16.60 lakh hectares in 1981-82. (Tables 1 and 2).

3. Sugarcane acreage in 1981-82 was somewhat higher than the earlier peak of 31.51 lakh hectares in 1977-78. Statewise, the peak to peak movements in area were, however, not similar. Bihar, Punjab and Haryana recorded a decrease in area under sugarcane in 1981-82 as compared to the previous peak of 1977-78 but there was an increase in Uttar Pradesh, as also in the major cane producing States in the tropical belt. Thus cane area declined by 2.4 per cent in the sub-tropical belt but expanded by 14.3 per cent in the tropical belt. Over a longer period, 1971-72 to 1981-82, area under sugarcane has shown a growth rate of 1.45 per cent per annum in Uttar Pradesh and 0.54 per cent per annum in Haryana, but in Bihar and Punjab, it declined at a rate of 1.79 per cent and 2.35 per cent per annum respectively. In the tropical belt, all the major cane producing States showed a growth in area, varying from 0.72 per cent per annum in Andhra Pradesh to 5.88 and 8.44 per cent respectively in Maharashtra and Gujarat.

4. A view has been expressed that area is being diverted from cereal crops to sugarcane. In the sub-tropical region, sugarcane competes for area with wheat-paddy rotation. In Punjab, Bihar and Haryana, sugarcane area as a proportion of the gross cropped area, and also of the combined area under sugarcane and wheat has shown, by and large, a decline over the years. In Uttar Pradesh, the area under sugarcane shows cyclical trends but, as a proportion of gross cropped area in 1981-82, it was at the earlier (1977-78) peak level. Sugarcane area in that State as a proportion of the sugarcane-cum-wheat area in 1981-82 was much lower than the levels recorded in 1973-74, 1974-75 and 1977-78. Therefore, while in the short run there are tendencies of substitution of wheat by sugarcane and *vice-versa*, there are no long run indications of a shift away from wheat in the sub-tropical belt. (Table 3).

*Chaudhari Randhir Singh, Member, recommends that the statutory minimum price for sugarcane be fixed at Rs. 25.00 per quintal linked to a recovery of 9.5 per cent, subject to a proportional premium for every 0.1 per cent increase in recovery above that level.

5. The problem of substitution of area is more complex in the tropical belt. While it is generally known that irrigated area proportions have in many of the States of the region been rising for sugarcane, paddy, high yielding variety cotton and tobacco, full details of the allocation of irrigated area to different crops are not available for recent years. However, area under sugarcane, which is primarily irrigated, has been rising at a relatively faster rate than the cropped area, and it is also a higher proportion of the sugarcane-cum-paddy area. This position holds in the decade as a whole as also comparing peak to peak patterns. (Table 4).

6. Expansion in area under sugarcane in 1981-82, though accompanied by a nominal decline in productivity, resulted in an increase in cane production to a record level of 183.65 million tonnes as against 154.25 million tonnes in 1980-81. Out of the total increase of 29.40 million tonnes in sugarcane production over 1980-81, as much as 12.60 million tonnes came from Uttar Pradesh, followed by 5.19 million tonnes from Maharashtra and 4.83 million tonnes from Andhra Pradesh. Other States also contributed to increase in production, albeit moderately. The share of the sub-tropical belt in the total production increase was 56.7 per cent though its contribution to area expansion was 71.8 per cent. Cane output in 1981-82 was higher than the earlier peak level by 6.68 million tonnes. Between the two peak years, the increase of 11.65 million tonnes in the tropical belt was partly offset by the decline of 4.32 million tonnes in the sub-tropical belt. Production in Uttar Pradesh was constant but there was a decline in Bihar, Haryana and Punjab.

7. As regards the reported magnitude of cane output, total cane produced in Gujarat during 1981-82 is estimated to be lower than the cane crushed by sugar factories. In Maharashtra also, cane crushed accounted for an unrealistically high figure of 98.4 per cent of the estimated cane production in 1981-82. For Bihar, a State in which over a quarter of cane production is traditionally used for gur and khandsari, the available estimates indicate that 91.3 per cent of the crop was used for manufacturing sugar. Production figures of cane in a few States may eventually turn out to be somewhat higher than the existing estimates, which may place the all-India cane production for 1981-82 at a still higher level than that indicated above. (Table 5).

8. With cane production in 1978-79 and 1979-80 declining sharply, prices of sweetening agents reached very high levels in 1979-80 and 1980-81. Following a dramatic decline in sugar availability, sugar mills were required to pay prices much higher than the statutory minimum. In 1981-82, despite a record increase in cane production, State "advised" prices were not reduced by more than a rupee or two. The increase in the sugar output, and the large availability of cane for gur and khandsari manufacturing led to a fall in the prices of all the three

sweetening agents. Wholesale prices of sugar at Hapur (Uttar Pradesh) in February 1982 were 19.2 per cent lower than those in February 1981. The average index number of wholesale prices for gur for the peak season of November 1981-February 1982 recorded a fall of 21.5 per cent compared to the corresponding average index a year earlier; similarly, the price index for khandsari showed a decline of 16.1 per cent. (Tables 6 to 9).

9. There was an increase of about 33 lakh tonnes or 64 per cent in sugar output in 1981-82. Consumption, as determined by the releases allowed by the Government, went up from 49.89 lakh tonnes in 1980-81 to 57.11 lakh tonnes in 1981-82, and exports of sugar in 1981-82 were 3.83 lakh tonnes as against 0.61 lakh tonnes in 1980-81, putting the total increase in the disposal at 10.44 lakh tonnes. The availability of large stocks combined with the increase in releases of sugar helped in continuing the down trend in prices in the lean period of 1981-82. (Table 10).

10. In the first half of the current season, despite reports of a decline in cane output, prices of sugar and gur kept falling. Wholesale prices of sugar at Hapur during October 1982-February 1983 were, on an average, about 27 per cent lower than in the corresponding period of the preceding season. In February 1983, prices of sugar ruled at Rs. 438 at Hapur as against Rs. 590 per quintal in February 1982. The corresponding prices at Hyderabad were Rs. 430 as against Rs. 531 and those at Bombay Rs. 456 as against Rs. 549 per quintal. The index numbers of wholesale prices of gur and khandsari in the period October, 1982 to February 1983 showed a fall of 15.1 per cent and 26.3 per cent respectively as compared to the corresponding period in 1981-82. Wholesale prices of gur at Hapur declined from Rs. 190 per quintal in December 1981 to an abysmally low level of Rs. 135 per quintal in December 1982. At Anakapalli (Andhra Pradesh), gur prices came down to Rs. 135 per quintal in January 1983 as against Rs. 170 per quintal in January 1982. Of late, wholesale prices of the sweetening agents have however, shown a recovery.

11. Realisation by cane growers depends upon the cane price payable by the sugar factories and khandsari units and the realisation from gur. In the past, a year of large decline in the earnings of the cane grower has been followed by a year of marginal reduction in cane area but a much larger decline in output through fall in yield. In a State like Uttar Pradesh where more than three-fifths of cane production is used for manufacturing gur and khandsari, the fall in realisation from gur has a big impact on the earnings from cane by the farmer. For example, following the decline in realisation from cane in 1969-70, cane area in Uttar Pradesh in 1970-71 declined by 2.3 per cent but production fell by

9.9 per cent. At the national level also, cane area showed a fall of 4.9 per cent while output went down by 6.4 per cent. Again in 1978-79, in Uttar Pradesh the area decline was 0.2 per cent but production fell by 18.9 per cent. In the same year, in the country as a whole, area fell by 2.0 per cent and output by 14.3 per cent. A higher proportion of ratoon and its lower yield on account of reduced growth period, combined with lower use of inputs for both planted and ratoon crops tend to give a much lower average yield. Indications are that while the total area under cane in 1982-83 may not show a decline, production of cane may turn out to be lower than that in the preceding year.

12. In the past, the cumulative impact of the reaction of the cane grower to lower realisation manifested itself in the second year in sharp declines in both area and production. In 1971-72, cane area in Uttar Pradesh declined by 5.3 per cent and production by 9.7 per cent; the all-India area under cane showed a decline of 8.6 per cent and production of 10.1 per cent. Again, in 1979-80, cane area and production showed a fall of 16.0 and 17.8 per cent respectively in Uttar Pradesh, the corresponding figures at the all-India level being 15.5 and 15.0 per cent. However, there is a difference in the situation that prevailed in the past and that in 1982-83 in as much as in 1982-83, the cane prices paid by sugar factories were not allowed to fall sharply.

13. As regards production of sweetening agents, there is a tendency, in a good crop year, of large scale cane diversion to the sugar industry on account of low cane price realisation by the farmer from gur and khandsari relative to the price received from sugar factories. After declining to 30 per cent in the poor cane crop year of 1979-80 from 38 per cent in the peak year of 1977-78, cane crushed by the sugar factories went up to around 48 per cent in 1981-82. Accordingly, production of sugar in 1981-82 went up to a record level of 84.38 lakh tonnes as against 38.59 lakh tonnes in 1979-80 and 64.62 lakh tonnes in the earlier peak year of 1977-78. With that, India achieved the distinction of becoming the largest cane sugar producing country in the world. (Table 11).

14. The share of the sub-tropical region in the additional sugar production in 1981-82 over the preceding year was only 35.7 per cent as against its contribution of 56.7 per cent to the additional cane production. The corresponding figures for the tropical region were 61.6 and 36.9 per cent. This was attributable, to an extent, to the uneven distribution of cane crushing capacity. While the installed capacity of the sugar industry has shown a very high growth rate in the tropical belt, particularly Maharashtra, Gujarat and Karnataka, it has either remained stagnant or shown only a nominal increase in the sub-tropical region. During the decade ending 1981-82, installed capacity of sugar industry as

a whole increased by 64.7 per cent but in Uttar Pradesh this increase was only 25.5 per cent, as against 108.2 per cent in Maharashtra. (Table 12).

15. This imbalance in the expansion of the sugar industry has two effects. First, crushing of cane in a good crop year has to be carried through June-July for lack of sufficient capacity. Late harvesting of cane results in a sharp decline in recovery. For instance, in 1981-82, the average recovery in Uttar Pradesh in the month of May 1982 declined by 0.94 percentage points or about 10 per cent from the level of 9.46 per cent in April; it further fell sharply by 1.40 and 1.37 percentage points in June and July, respectively. Again, to save the standing cane from drying up, additional irrigation has to be provided. Besides, there may be a decline in the yield of the next ratoon crop. Crushing of cane within the optimal period of recovery would have not only vacated the land early but also resulted in larger sugar production from the same volume of cane. Preliminary exercises show that the economic returns from the saving of scarce land and supplementary resources would make the investment in expanded capacity in the sugar industry in the sub-tropical region highly socially productive. The Commission, therefore, reiterates its earlier recommendation that installation of new capacity be allowed in such a way as may put it in reasonable proportions to the cane production in various States.

16. It has been brought to the attention of the Commission that in some States, over-use of surface irrigation on land under sugarcane is leading to serious soil salinity and alkalinity problems. For example, it is reported that, in Maharashtra, about 50,000 hectares of land are facing water logging problems. This equals around a fifth of the irrigated area under the sugarcane crop in the State. Similar instances are reported for the Ukai Kakrapara Command Area in Gujarat. The Commission had, in its report last year, drawn the pointed attention to the fact that in Maharashtra, for instance, cane is given 30-40 irrigations as against 5-6 in Uttar Pradesh and Punjab. Given the overwhelming magnitude of the social losses sustained through land degradation, as compared to the marginal benefits of current cultivation, the Commission recommends that policies for controlled surface water application and conjunctive use be strictly enforced in areas susceptible to such losses; these lands be identified on a priority basis through appropriate water table and aquifer studies.

17. The sugar position may continue to be comfortable for another two years because of the availability of 3.34 million tonnes of carry-over stock from the 1981-82 season, coupled with encouraging reports of sugar production so far during the current season also. However, this should not lead to a sense of complacency. Such occasions have come in the past too. The disastrous impact of the decontrol policy of August 1978

showed up in a negative deviation of 1.8 million tonnes from the trend level production of sugar in 1978-79 and a positive deviation of 2.2 million tonnes in 1981-82. While such fluctuations are in the relatively extreme range, it is interesting to note that, in most other years, the deviation was not above 7-8 lakh tonnes. Each phase of the cane/sugar/gur cycle has been generally of two years' duration. An appropriate policy framework can dampen the cycle though not eliminate it. It is realistic to provide for some fluctuation in the sugarcane and sugar economy, and, therefore, the Commission recommends that a buffer stock level of 8-10 lakh tonnes be planned for. (Table 13).

18. There is however, an immediate problem. The current level of sugar stock in the country is 6.1 million tonnes. According to the available indications, this is likely to go down to around 4.0 million tonnes by October 1983. In addition to the proposed buffer stock, there will be the balance accumulation of around 1.2 to 1.5 million tonnes. Since a stock of roughly similar magnitude has to be carried for operational purposes. Schemes can be considered to plan for a socially productive use of this balance stock of 1.2 to 1.5 million tonnes of sugar in the remaining period of the Sixth Plan. In this connection, it may be pointed out that the calorie value of sugar is high namely 3980 per kilo as compared to around 3300 for most cereals. The foodgrains component of the wage payments in the National Rural Employment Programme and the Food for Work Programme at present can be conservatively estimated at 24 per cent of the outlay sanctioned for the purpose. Even if 6 to 8 per cent of the "in kind" payments are made in terms of sugar, which would supplement and/or replace the foodgrain component, a demand of around 40,000 tonnes of sugar annually can be created. Preliminary estimates show that a roughly similar quantity of sugar can be integrated with the Special Nutrition Programme and the Mid-day Meals Programme. The Commission recommends that the concerned agencies in the Government should consider integration of sugar supply in these socially useful programmes with a target of distributing around 0.8 to 1.0 lakh tonnes of sugar per annum in the balance period of the Sixth Plan. Keeping in view the existing sugar stocks and the anticipated demand-supply balances, attempts should also be made to more purposively make available and promote sugar supplies in the public distribution system in the rural areas. Apart from this, it is essential that vigorous efforts are made to increase exports of sugar to traditional as also to non-traditional markets.

19. More than half of the cane produced in the country goes for the manufacture of gur and khandasari. The development of khandasari manufacturing industry, its extension from northern region to other regions, particularly western in

the recent years, and the role it plays in the sugarcane economy have assumed importance. Though the khandasari industry provides a significant demand dimension for sugarcane, the uncertainty of the price offered by the industry to the cane grower and of the demand for cane, together with freedom to sell its output entirely in the free markets, adds to cyclical fluctuations in cane. It has, therefore, time and again been felt that the longer term interest of the cane grower cannot be protected without extending the government's regulatory measures to these units. The Commission recommends that an appropriate price and regulatory framework be developed for khandasari units.

20. In its report on price policy for sugarcane for the 1981-82 season, the Commission had recommended a statutory minimum price of Rs. 15.50 per quintal linked to a basic recovery of 8.5 per cent. The same recommendation was, with minor changes, repeated by the Commission for the 1982-83 season. Had the Government accepted the advice of the Commission, it would have meant a minimum price of around Rs. 18 per quintal for 1981-82 and 1982-83 for an average recovery of 10.0 per cent. These prices would have not only provided an attractive margin to the cane grower over his cost of production but would have also allowed demand and supply forces to better adjust in the balancing of the sugar economy. The Government, however, announced a statutory minimum price of Rs. 13.00 per quintal for a recovery of 8.5 per cent in both 1981-82 and 1982-83, implying a price of Rs. 15.29 per quintal for an average recovery of 10 per cent. This price was out of line with that recommended by the Commission and could not provide for a remunerative return to the cane farmer, at least in some of the principal sugarcane producing States. Therefore, this price could not serve as a realistic basis for the fixation of the price to be paid to the cane farmer by sugar factories. (Table 14).

21. In fact, prices paid to the cane growers in many States were determined by the prices "advised" by the State Governments. These were, evidently, out of line with the adjustment requirements of the sugar economy, and continue to be so. Somewhat paradoxically, the benefits of the unrealistically high "advised" prices being paid by sugar factories to the cane farmer are doubtful, since a large part of his total returns from cane are determined by realizations from gur prices and payments by khandasari units and, as shown earlier, these tend to fluctuate wildly, if the sugar/cane economy itself is not in balance. There had also been problems of payment of arrears by the sugar factories to the cane growers. The Commission, therefore, recommends that in the interest of the orderly development of the sugar economy, as also in the larger interest of the cane grower, the system of "State advised" cane prices be dispensed with.

22. It is sometimes argued that a low statutory minimum price for sugarcane can be compensated by determining a price for free sale sugar through regulated releases which would permit the sugar factories to give a higher price to the cane grower. In theory, it is possible to postulate a price for levy sugar and a price for free sale sugar (to be maintained by an appropriate release policy) and to derive from these prices, a price of sugarcane to be paid by the sugar factories. The operation of such a system with a high level of precision is beset with insuperable difficulties. To begin with, a one to one relation between regulated releases and open market prices is difficult to forecast in advance, although directional changes can be anticipated. Also, on the supply side, even in a very well-managed system, there would remain some genuine uncertainty which it would be prudent to provide for by introducing an element of flexibility in the policy framework.

23. The system of partial control, when introduced, had sought to improve the competitive strength of the sugar factories, vis-a-vis gur and khandsari manufacturing units, to attract larger quantities of cane and thereby produce more of sugar. Under this system, the levy price of sugar was to be based on the statutory minimum price fixed by the Government, while the factories were free, or rather enabled, to pay a price higher than the statutory minimum according to the variations in demand and supply. In this system, Government, too, can effect directional changes through appropriate buffer stock and regulated release policies. As long as this system is allowed to operate freely, it will serve the twin purpose of providing support to the cane producer and assuring regular supplies of sugar to the consumer at reasonable prices.

24. The latest available estimates of cost of production for sugarcane, generated under the Comprehensive Scheme, pertain to Uttar Pradesh and Andhra Pradesh for 1980-81 and to Maharashtra for 1979-80. The costs of production in Uttar Pradesh and Andhra Pradesh for the year 1980-81 have been placed at Rs. 9.32 and Rs. 12.37 per quintal, respectively. In the case of Maharashtra, for the year 1979-80, the same has been placed at Rs. 10.92 per quintal. Adjusting for the subsequent increases in variable input prices (including the increase in diesel prices w.e.f. 14-2-83), the estimated cost of production works out to Rs. 14.84 for Maharashtra, Rs. 10.79 for Uttar Pradesh and Rs. 14.04 per quintal for Andhra Pradesh. (Tables 15 to 17).

25. Keeping in view the trends in area and production of sugarcane, the emerging supply and demand situation in respect of sugar, cost of production of cane and changes in input prices, the Commission recommends that the statutory minimum price for sugarcane (excluding the transport cost) for the 1983-84 season be fixed at Rs. 14.00 per quintal for a basic recovery of 8.5 per cent, subject to a proportional premium for every 0.1 per cent increase in recovery above that level (which, taking into account the transportation cost of Rs. 2 per quintal, recommended below, comes to around Rs. 18.50* per quintal for a recovery of 10.0 per cent).

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TABLES

TABLE 1

Area and Production of Sugarcane

Area : '000 hectares

Production : '000 tonnes

Year	Area	Per-centage change over the Preceding year	Production	Per-centage change over the Preceding year
1	2	3	4	5
1967-68	2,047	..	95,500	..
1968-69	2,532	+23.7	124,676	+30.6
1969-70	2,749	+8.6	135,024	+8.3
1970-71	2,615	-4.9	126,368	-6.4
1971-72	2,390	-8.6	113,570	-10.1
1972-73	2,452	+2.6	124,867	+10.0
1973-74	2,752	+12.2	140,805	+12.8
1974-75	2,894	+5.2	144,289	+2.5
1975-76	2,762	-4.6	140,604	-2.6
1976-77	2,866	+3.8	153,007	+8.8
1977-78	3,151	+9.9	176,966	+15.7
1978-79	3,088	-2.0	151,655	-14.3
1979-80	2,610	-15.5	128,833	-15.0
1980-81	2,667	+2.2	154,248	+19.7
1981-82	3,192	+19.7	183,647	+19.1

Source : Directorate of Economics and Statistics
Ministry of Agriculture.

TABLE 2

Area, Production and Yield of Sugarcane

Area : '000 hectares
 Production : '000 tonnes (cane)
 Yield : Kgs. per hectare

Region/State	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82*
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Tropical Region													
Area	1,863	1,790	1,633	1,681	1,872	1,917	1,847	1,865	2,088	2,065	1,697	1,660	2,037
Production	81,342	73,131	62,989	72,170	77,680	79,107	76,266	82,742	97,267	79,024	63,022	76,265	192,948
Yield	43,662	40,855	38,573	42,933	41,496	41,266	41,292	44,366	46,584	38,268	37,137	45,943	45,630
Uttar Pradesh													
Area	1,377	1,345	1,274	1,308	1,473	1,492	1,441	1,456	1,637	1,634	1,373	1,363	1,660
Production	60,679	54,672	49,354	56,727	60,773	61,479	58,359	65,216	76,819	62,324	51,228	64,205	76,808
Yield	44,079	40,643	38,737	43,369	41,266	41,220	40,508	44,794	46,941	38,147	37,317	47,092	46,273
Bihar													
Area	168	162	142	134	139	141	134	126	139	131	120	111	124
Production	6,563	6,209	4,465	4,753	5,157	5,568	4,907	4,176	4,958	3,570	3,914	3,480	4,180
Yield	39,111	38,353	31,468	35,392	37,155	39,575	36,698	32,674	35,796	27,233	32,724	31,412	33,822
Punjab													
Area	149	128	103	103	110	123	114	113	116	110	77	71	106
Production	6,180	5,270	4,030	4,690	5,820	6,150	6,130	6,070	6,520	6,240	3,930	3,920	6,120
Yield	41,588	41,269	39,126	45,756	52,765	50,000	53,678	53,717	56,207	56,727	51,039	55,211	57,736
Haryana													
Area	169	155	114	136	150	161	158	168	196	190	127	115	147
Production	7,920	6,980	5,140	6,000	5,930	5,910	6,870	7,280	8,970	6,890	3,950	4,660	5,840
Yield	46,864	55,032	45,088	44,118	39,613	36,617	43,536	43,333	45,835	36,301	31,102	40,522	39,728
Tropical Region													
Area	643	606	561	566	649	705	654	735	803	752	677	803	918
Production	45,347	44,755	42,317	44,207	52,938	53,895	52,937	58,728	68,255	61,217	56,497	69,071	79,906
Yield	70,524	73,853	75,431	78,104	81,569	76,447	80,943	79,902	85,000	75,200	83,452	86,016	87,044
Maharashtra													
Area	222	217	182	146	165	185	212	241	246	244	222	256	297
Production	14,444	14,770	11,495	11,918	12,943	17,178	18,870	21,499	23,320	22,482	19,819	23,591	28,780
Yield	65,032	68,002	63,226	81,628	78,633	92,754	89,092	89,244	94,795	92,102	89,276	92,331	96,868

TABLE 2 (Concluded)

Region/State	Area : '000 hectares Production: '000 tonnes (Cane) Yield : Kgs. per Hectare												
	1969-70	1970-71	1971-72	1972-73	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82*
1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Gujarat</i>													
Area	37	37	36	38	44	41	38	49	62	58	57	75	84
Production	1,866	1,937	1,849	1,801	2,227	1,999	2,080	2,717	3,487	3,287	3,192	4,435	5,023
Yield	50,834	51,783	50,797	47,149	50,160	49,000	55,162	55,445	56,419	56,763	56,091	59,215	59,582
<i>Andhra Pradesh</i>													
Area	158	120	119	134	144	195	147	146	169	142	114	132	179
Production	11,108	9,122	10,571	9,917	10,907	11,496	10,332	10,281	12,847	9,044	8,422	10,054	14,883
Yield	70,127	76,273	88,761	73,842	73,955	58,922	70,480	70,366	76,020	63,557	74,141	75,936	83,378
<i>Karnataka</i>													
Area	91	97	107	104	110	124	129	144	159	154	135	157	169
Production	7,714	8,483	8,776	8,458	8,563	8,629	9,719	9,985	11,606	10,973	9,671	12,421	12,556
Yield	84,672	87,723	82,171	81,174	78,127	69,533	75,572	69,584	72,992	71,390	71,475	79,367	74,516
<i>Tamil Nadu</i>													
Area	135	135	117	144	186	160	128	155	167	154	149	183	189
Production	10,215	10,443	9,626	12,113	18,298	14,593	11,936	14,246	16,995	15,431	15,393	18,570	18,664
Yield	75,670	77,359	82,626	84,174	98,269	90,977	93,032	92,204	101,521	99,940	103,035	101,475	98,753
<i>All-India</i>													
Area	2,749	2,615	2,390	2,452	2,752	2,894	2,762	2,866	3,151	3,088	2,610	2,667	3,192
Production	135,024	126,368	113,570	124,867	140,805	144,289	140,604	153,007	176,966	151,655	128,833	154,248	183,647
Yield	49,121	48,322	47,511	50,933	51,163	49,855	50,903	53,383	56,160	49,114	49,358	57,844	57,535

* : Final Estimate.

NOTE : The Sub-tropical region comprises of Uttar Pradesh, Bihar, Haryana and Punjab. The tropical region comprises Maharashtra, Gujarat, Andhra Pradesh, Karnataka and Tamil Nadu.

Source : Directorate of Economics & Statistics, Ministry of Agriculture.

TABLE 3

Sugarcane Area Relative to Gross Cropped Area and Wheat-cum-Sugarcane Area

(Per cent)

Year	Uttar Pradesh		Bihar		Punjab		Haryana	
	Sugarcane Area as Percentage of		Sugarcane Area as Percentage of		Sugarcane Area as Percentage of		Sugarcane Area as Percentage of	
	Gross Cropped Area	Wheat+ Sugarcane Area	Gross Cropped Area	Wheat+ Sugarcane Area	Gross Cropped Area	Wheat+ Sugarcane Area	Gross Cropped Area	Wheat+ Sugarcane Area
1	2	3	4	5	6	7	8	9
1970-71	5.8	18.6	1.5	11.0	2.3	5.3	3.1	12.1
1971-72	5.5	17.4	1.3	9.2	1.8	4.2	2.3	8.8
1972-73	5.7	17.6	1.3	5.1	1.7	4.1	2.6	9.7
1973-74	6.4	19.7	1.3	9.4	1.8	4.5	2.9	11.3
1974-75	6.6	19.5	1.3	8.7	2.1	5.3	3.3	12.6
1975-76	6.2	18.6	1.2	6.9	1.8	4.5	2.9	11.4
1976-77	6.3	18.0	1.1	6.2	1.8	4.2	3.2	11.1
1977-78	7.0	19.5	1.2	7.0	1.8	4.2	3.6	12.6
1978-79	6.7	18.1	1.2	6.8	1.7	3.9	3.4	11.4
1979-80	5.8	15.4	1.0	6.6	1.2	2.7	2.3	8.0
1980-81	5.7	14.6	1.0	5.8	1.0	2.5	2.1	7.2
1981-82	7.0	18.0	1.1	6.3	1.5	2.6	2.6	8.2

TABLE 4

Sugarcane Area Relative to Gross Cropped Area and Paddy-cum-Sugarcane Area

(Per cent)

Year	Maharashtra		Gujarat		Andhra Pradesh		Karnataka		Tamil Nadu	
	Sugarcane Area as Percentage of		Sugarcane Area as Percentage of		Sugarcane Area as Percentage of		Sugarcane Area as Percentage of		Sugarcane Area as Percentage of	
	Gross Area	Paddy Area	Gross Area	Paddy Area	Gross Area	Paddy Area	Gross Area	Paddy Area	Gross Area	Paddy Area
1	2	3	4	5	6	7	8	9	10	11
1970-71	1.2	13.8	0.4	7.0	0.9	3.3	0.9	7.7	1.8	4.8
1971-72	1.0	12.0	0.3	7.0	0.9	3.8	1.0	8.7	1.5	4.2
1972-73	0.9	10.2	0.4	8.6	1.1	4.4	1.0	9.3	1.9	4.8
1973-74	0.8	10.3	0.4	9.0	1.1	4.1	1.0	8.7	2.4	6.4
1974-75	0.9	12.4	0.5	10.0	1.5	5.2	1.1	9.6	2.4	6.7
1975-76	1.1	13.0	0.4	7.6	1.1	3.6	1.2	9.8	1.8	4.8
1976-77	1.2	14.0	0.5	9.5	1.3	3.9	1.5	13.0	2.2	6.4
1977-78	1.2	14.1	0.6	11.4	1.3	4.4	1.4	12.6	2.1	5.7
1978-79	1.2	14.0	0.6	11.2	1.1	3.5	1.4	12.3	2.0	5.3
1979-80	N.A.	13.0	N.A.	11.1	N.A.	3.2	N.A.	10.3	N.A.	4.9
1980-81	N.A.	14.5	N.A.	13.6	N.A.	3.5	N.A.	12.5	N.A.	7.6
1981-82	N.A.	16.4	N.A.	14.4	N.A.	4.5	N.A.	13.0	N.A.	7.1

N.A. Not available

TABLE 5

Utilisation of Sugarcane for Manufacturing Sugar

(Per cent of cane output)

State	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82
1	2	3	4	5	6	7	8	9
Andhra Pradesh	34.26	31.84	29.79	36.01	37.96	27.64	28.60	42.46
Bihar	44.04	39.74	51.65	62.89	81.62	46.14	60.78	91.34
Gujarat	78.94	51.68	83.92	90.71	89.20	65.66	75.24	108.72
Haryana	21.57	16.78	16.80	20.09	22.24	24.73	26.12	34.38
Karnataka	36.19	34.96	41.77	50.03	43.87	28.04	28.79	51.15
Maharashtra	78.93	75.54	66.84	82.50	85.54	66.32	79.99	98.42
Punjab	13.93	15.71	15.49	19.95	15.93	13.10	14.95	25.07
Tamil Nadu	31.22	16.50	26.62	32.16	37.38	26.49	26.68	46.04
Uttar Pradesh	24.68	20.94	23.24	26.75	25.30	19.92	20.15	29.67
All-India	33.56	29.76	31.98	38.03	39.36	30.30	33.43	47.57

Sources : 1. Directorate of Sugar, Ministry of Food & Civil Supplies.

2. Directorate of Economics and Statistics, Ministry of Agriculture.

TABLE 6

Index Numbers of Wholesale Prices

(Base : 1970-71=100)

Month	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
1	2	3	4	5	6	7	8
<i>SUGAR</i>							
October	179.8	160.6	145.3	158.2	251.0	245.2	222.2
November	178.2	161.8	141.6	164.0	253.4	245.0	220.9
December	174.6	158.6	137.4	187.2	274.2	249.0	217.5P
January	168.3	152.5	134.8	192.2	270.6	254.4	217.2P
February	167.4	144.6	134.1	210.5	274.2	250.0	220.8P
March	165.4	157.0	145.1	218.2	275.7	242.4	..
April	163.2	153.3	161.8	215.4	293.1	239.4	..
May	164.6	151.3	160.2	221.5	279.9	239.0	..
June	161.8	153.6	160.3	221.0	277.0	240.0	..
July	161.7	152.4	170.0	243.0	264.4	240.4	..
August	161.6	152.0	176.0	248.5	257.5	237.4	..
September	164.7	152.1	169.1	256.7	244.0	227.8	..
<i>GUR</i>							
October	260.2	209.7	161.1	286.3	585.8	381.7	306.3
November	227.8	199.8	165.5	259.3	390.4	333.9	285.2
December	215.8	190.0	147.9	297.1	361.0	289.0	248.6P
January	195.8	171.1	140.0	273.8	368.0	290.4	242.1P
February	207.9	155.5	131.8	313.0	375.3	260.0	238.0P
March	210.3	151.9	146.8	320.6	401.1	246.2	..
April	206.9	141.3	172.4	332.4	462.3	240.5	..
May	212.4	134.9	185.1	383.4	458.4	254.3	..
June	220.3	147.9	208.5	416.0	459.9	298.4	..
July	216.2	151.2	238.9	498.5	436.6	312.7	..
August	219.0	155.1	275.0	522.6	432.8	324.0	..
September	221.1	154.5	289.0	608.8	394.9	306.2	..

TABLE 6—(Concluded)

1	2	3	4	5	6	7	8
	<i>KHANDSARI</i>						
October	265.9	190.3	121.6	178.2	422.8	339.1	255.5
November	258.8	178.8	119.6	186.0	431.2	338.3	251.9
December	229.8	190.4	117.5	235.3	390.9	328.5	248.4P
January	192.6	169.2	118.0	253.0	355.3	313.3	220.0P
February	199.2	153.8	120.4	284.8	354.4	305.2	221.0P
March	194.2	159.7	134.8	312.0	388.9	266.8	..
April	194.5	149.7	164.9	320.2	445.2	252.7	..
May	204.6	146.4	161.8	360.0	420.6	256.8	..
June	201.4	157.0	157.7	364.4	423.2	270.4	..
July	198.6	157.4	175.0	411.5	400.5	273.4	..
August	197.8	151.6	189.5	397.5	361.4	273.4	..
September	206.7	126.9	194.8	420.4	332.6	215.6	..

P : Provisional.

Source : Office of the Economic Adviser, Ministry of Industry.

TABLE 7
Sugar : Month-end Wholesale Prices

(Rs. per quintal)

State/Market/Grade	Year	October	November	December	January	February	March	April	May	June	July	August	September
1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Andhra Pradesh</i>													
Hyderabad (E-30)	1979-80	270.00	280.00	N.A.	445.00	645.00	555.00	549.00	550.00	585.00	750.00	700.00	780.00
	1980-81	N.A.	790.00	655.00	710.00	695.00	725.00	850.00	705.00	685.00	630.00	520.00	540.00
	1981-82	580.00	530.00	530.00	565.00	551.00	520.00	520.00	520.00	500.00	540.00	470.00	430.00
	1982-83	410.00	410.00	395.00	395.00	430.00	425.00						
<i>Bihar</i>													
Gaya (D-30)	1979-80	296.00	540.00	540.00	560.00	560.00	500.00	485.00	N.A.	N.A.	N.A.	N.A.	N.A.
	1980-81	N.A.	750.00	770.00	695.00	680.00	N.A.	N.A.	790.00	770.00	735.00	645.00	580.00
	1981-82	560.00	670.00	550.00	560.00	560.00	560.00	500.00	475.00	500.00	505.00	505.00	505.00
	1982-83	470.00	465.00	440.00	415.00	425.00	420.00						
<i>Gujarat</i>													
Rajkot	1979-80	287.00	295.00	291.00	450.00	650.00	580.00	585.00	615.00	605.00	810.00	810.00	N.A.
	1980-81	N.A.	800.00	700.00	725.00	740.00	765.00	900.00	740.00	710.00	670.00	550.00	525.00
	1981-82	560.00	590.00	605.00	630.00	585.00	565.00	565.00	560.00	550.00	600.00	470.00	455.00
	1982-83	450.00	460.00	410.00	490.00	450.00	460.00						
<i>Karnataka</i>													
Bangalore	1979-80	272.00	285.00	467.00	445.00	630.00	551.00	570.00	550.00	600.00	810.00	810.00	860.00
	1980-81	N.A.	N.A.	685.00	720.00	725.00	740.00	880.00	715.00	710.00	640.00	532.00	555.00
	1981-82	540.00	530.00	580.00	590.00	540.00	535.00	540.00	575.00	515.00	560.00	455.00	420.00
	1982-83	400.00	425.00	440.00	450.00	458.00	460.00						
<i>Maharashtra</i>													
Bombay (C-30)	1979-80	278.00	283.00	432.00	448.00	645.00	580.00	580.00	595.00	600.00	790.00	735.00	N.A.
	1980-81	N.A.	790.00	670.00	717.00	720.00	757.00	880.00	705.00	669.00	660.50	546.00	554.00
	1981-82	545.00	552.00	573.00	589.00	549.00	555.00	554.00	558.00	520.00	568.00	455.50	432.50
	1982-83	417.50	422.00	389.50	424.00	456.00	449.00						
<i>Tamil Nadu</i>													
Madras (Parry)	1979-80	276.00	289.00	479.00	445.00	645.00	580.00	555.00	550.00	575.00	780.00	770.00	N.A.
	1980-81	N.A.	840.00	680.00	700.00	700.00	725.00	855.00	729.00	715.00	640.00	530.00	545.00
	1981-82	525.00	530.00	575.00	572.00	530.00	530.00	525.00	560.00	510.00	532.00	445.00	410.00
	1982-83	402.00	405.00	392.00	433.00	435.00	450.00						

TABLE 7—(Concluded)

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Uttar Pradesh													
Hapur (C-29)	1979-80	275.00	280.00	450.00	415.00	525.00	500.00	515.00	515.00	625.00	710.00	600.00	660.00
	1980-81	616.00	616.00	745.00	660.00	730.00	750.00	840.00	730.00	780.00	630.00	600.00	590.00
	1981-82	600.00	580.00	590.00	590.00	590.00	570.00	510.00	510.00	530.00	530.00	530.00	445.00
	1982-83	445.00	445.00	420.00	420.00	438.00	445.00						
Kanpur													
(D-30)	1979-80	285.00	298.00	475.00	430.00	570.00	575.00	580.00	530.00	605.00	740.00	700.00	700.00
	1980-81	N.A.	N.A.	720.00	695.00	695.00	725.00	880.00	680.00	760.00	630.00	660.00	590.00
	1981-82	570.00	580.00	575.00	575.00	550.00	545.00	500.00	510.00	520.00	535.00	535.00	565.00
	1982-83	430.00	415.00	420.00	425.00	415.00	422.00						
West Bengal													
Calcutta (D-30)	1979-80	296.00	335.00	420.00	460.00	590.00	535.00	560.00	560.00	610.00	680.00	740.00	585.00
	1980-81	585.00	585.00	765.00	708.00	735.00	750.00	830.00	765.00	775.00	650.00	595.00	600.00
	1981-82	585.00	570.00	630.00	600.00	590.00	540.00	525.00	530.00	540.00	555.00	545.00	520.00
	1982-83	445.00	450.00	435.00	435.00	440.00	450.00						

N.A. : Not available.

Source : Directorate of Economics and Statistics, Ministry of Agriculture

TABLE 8
Gur : Month-end Wholesale Prices

(Rs. per quintal)

State/Market/Variety	Year	October	November	December	January	February	March	April	May	June	July	August	September
1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Andhra Pradesh</i>													
Anakapalli	1979-80	189.00	240.00	197.00	199.00	229.00	202.00	224.00	285.00	320.00	336.00	372.00	411.00
(II Sort)	1980-81	280.00	295.00	233.00	256.00	250.00	295.00	340.00	350.00	332.00	268.00	255.00	290.00
	1981-82	207.00	200.00	198.00	170.00	125.00	133.00	115.00	154.00	180.00	170.00	224.00	182.00
	1982-83	240.00	197.00	184.00	135.00	157.00	165.00						
<i>Bihar</i>													
Patna (Deshi)	1979-80	220.00	215.00	265.00	250.00	275.00	280.00	270.00	305.00	300.00	325.00	315.00	350.00
	1980-81	360.00	290.00	270.00	305.00	300.00	290.00	310.00	380.00	380.00	310.00	300.00	320.00
	1981-82	330.00	240.00	250.00	230.00	210.00	210.00	208.00	205.00	280.00	280.00	280.00	270.00
	1982-83	270.00	270.00	240.00	270.00	230.00	200.00						
<i>Gujarat</i>													
Rajkot (Kolhapur)	1979-80	260.00	275.00	275.00	250.00	290.00	280.00	310.00	315.00	300.00	350.00	325.00	350.00
	1980-81	325.00	318.00	250.00	305.00	275.00	275.00	350.00	350.00	325.00	320.00	N.A.	N.A.
	1981-82	275.00	280.00	270.00	240.00	225.00	230.00	195.00	225.00	225.00	220.00	260.00	260.00
	1982-83	265.00	265.00	245.00	190.00	180.00	200.00						
<i>Haryana</i>													
Ambala (Deshi)	1979-80	178.00	186.00	230.00	180.00	234.00	242.00	280.00	325.00	325.00	470.00	570.00	485.00
	1980-81	N.A.	260.00	280.00	290.00	290.00	355.00	325.00	385.00	N.A.	N.A.	360.00	N.A.
	1981-82	299.80	272.00	260.00	179.00	210.00	170.00	190.00	260.00	300.00	320.00	338.00	320.00
	1982-83	260.00	N.A.	230.00	165.00	165.00	157.00						
<i>Karnataka</i>													
Bangalore (Local A-1)	1979-80	280.00	370.00	270.00	300.00	330.00	330.00	340.00	370.00	400.00	430.00	420.00	440.00
	1980-81	445.00	450.00	390.00	380.00	350.00	380.00	400.00	400.00	410.00	400.00	360.00	330.00
	1981-82	250.00	260.00	290.00	270.00	230.00	260.00	250.00	220.00	230.00	210.00	210.00	210.00
	1982-83	210.00	250.00	220.00	220.00	220.00	230.00						
<i>Maharashtra</i>													
Bombay (Kolhapur) (II Sort)	1979-80	290.00	270.00	230.00	265.00	335.00	295.00	305.00	400.00	410.00	490.00	490.00	510.00
	1980-81	350.00	380.00	345.00	350.00	350.00	380.00	505.00	520.00	520.00	530.00	N.A.	N.A.
	1981-82	390.00	320.00	305.00	305.00	265.00	270.00	260.00	300.00	355.00	320.00	305.00	295.00
	1982-83	305.00	325.00	305.00	260.00	288.00	260.00						

TABLE 8—Contd.

1	2	3	4	5	6	7	8	9	10	11	12	13	14
<i>Punjab</i>													
Jullundur	1979-80	180·00	220·00	230·00	215·00	260·00	265·00	325·00	350·00	350·00	485·00	480·00	600·00
	1980-81	300·00	300·00	270·00	300·00	320·00	375·00	400·00	370·00	375·00	350·00	380·00	365·00
	1981-82	270·00	250·00	215·00	290·00	200·00	210·00	200·00	265·00	320·00	310·00	340·00	290·00
	1982-83	270·00	200·00	180·00	190·00	200·00	185·00						
<i>Tamil Nadu</i>													
Madras (II Sort)	1979-80	310·00	280·00	230·00	270·00	290·00	280·00	280·00	340·00	380·00	380·00	430·00	460·00
	1980-81	470·00	420·00	330·00	350·00	370·00	350·00	370·00	410·00	400·00	400·00		340·00
	1981-82	330·00	320·00	240·00	230·00	190·00	180·00	180·00	180·00	230·00	220·00	220·00	210·00
	1982-83	230·00	240·00	230·00	210·00	200·00	210·00						
<i>Uttar Pradesh</i>													
Hapur (Phatwa No. I)	1979-80	175·00	200·00	175·00	182·00	230·00	185·00	275·00	265·00	330·00	400·00	380·00	490·00
	1980-81	240·00	230·00	255·00	250·00	240·00	285·00	340·00	305·00	335·00	275·00	270·00	250·00
	1981-82	220·00	200·00	190·00	165·00	150·00	145·00	155·00	210·00	218·00	235·00	250·00	280·00
	1982-83	235·00	155·00	135·00	140·00	158·00	155·00						

N.A. : Not available.

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

TABLE 9
Average prices Paid by Sugar Factories for Sugarcane

(Rs. per quintal)

Year	Uttar Pradesh	Bihar	Haryana	Punjab	Maha-rashtra	Gujarat	Andhra Pradesh	Karnataka	Tamil Nadu	All-India
1	2	3	4	5	6	7	8	9	10	11
1972-73	12.03	11.71	12.56	12.18	11.02	10.74	10.49	11.60	9.35	11.30
1973-74	12.60	12.26	12.18	12.27	12.77	10.42	10.37	11.35	9.28	11.52
1974-75	13.88	13.37	14.08	14.18	10.97	12.48	11.63	12.47	10.00	12.31
1975-76	12.48	12.31	12.92	13.33	10.32	11.14	10.72	12.50	10.00	11.44
1976-77	12.80	12.15	13.01	13.23	11.33	11.13	11.34	13.32	10.24	12.01
1977-78	12.58	12.47	12.75	13.86	10.91	9.85	10.93	12.41	10.46	11.65
1978-79	11.12	11.34	10.78	10.97	10.57	10.08	10.76	11.08	10.86	10.96
1979-80	15.56	13.03	14.70	15.05	14.57	14.21	13.22	15.32	13.35	14.55
1980-81	23.19	20.95	23.73	24.55	21.11	15.15	20.33	22.39	19.12	21.15
1981-82P	21.11	20.50	22.00	21.83	18.95	16.77	18.73	20.78	16.82	19.47

P : Provisional.

NOTES : 1. The Statewise price is the simple average of prices paid by factories in each State.

2. The All-India price is the weighted average of the average prices paid by sugar factories in different States Statewise sugar production being the weights.

TABLE 10
Balance Sheet of Sugar

('000 tonnes)

Season (October to September)	Stocks at the Beginning of the season	Pro-duction	Total Availability	Con-summation	Exports	System of Regulation of Sugar
1	2	3	4	5	6	7
1969-70	1,306	4,262	5,568	3,261	217	Partial Decontrol
1970-71	2,090	3,740	5,830	4,025	395	(i) Partial Decontrol (Up to May 24, 1971) (ii) Decontrol (From May 25, 1971)
1971-72	1,410	3,113	4,523	3,780	144	(i) Decontrol (Up to December 31, 1971) (ii) Voluntary Control (From January 1, 1972). (iii) Partial Decontrol (From July 1, 1972)
1972-73	599	3,873	4,472	3,511	97	Partial Decontrol
1973-74	864	3,948	4,812	3,529	405	Partial Decontrol
1974-75	878	4,797	5,675	3,457	924	Partial Decontrol
1975-76	1,294	4,264	5,558	3,691	1,021	Partial Decontrol
1976-77	846	4,843	5,689	3,753	312	Partial Decontrol
1977-78	1,624	6,462	8,086	4,548	202	(i) Partial Decontrol (Up to August 15, 1978). (ii) Decontrol (From August 16, 1978)
1978-79	3,336	5,844	9,180	6,181	863	(i) Decontrol (ii) Monthly release Mechanism re-intro-duced by Government (From June 5, 1979). (iii) Full Price-control (From September 12, 1979).
1979-80	2,136	3,859	6,175£	5,203	290	(i) Full price control (Up to December 16, 1979). (ii) Partial Decontrol (From December 17, 1979).
1980-81	682	5,148	6,044**	4,989	61	Partial Decontrol
1981-82	994	8,438	9,432	5,711	383	Partial Decontrol
1982-83	3,338	..	..	..	..	Partial Decontrol

£ : Includes imports of 1.80 lakh tonnes

** : Includes imports of 2.14 lakh tonnes

Source : Directorate of Sugar, Ministry of Food and Civil Supplies.

TABLE 11
Statewise Production of Sugar

(Lakh tonnes)

Year State	Uttar Pradesh	Bihar	Punjab	Haryana	Maha- rashtra	Gujarat	Andhra Pradesh	Kar- nataka	Tamil Nadu	All- India
1	2	3	4	5	6	7	8	9	10	11
1969-70	16.24	3.33	0.69	0.97	10.44	0.99	3.35	2.38	2.89	42.62
1970-71	12.99	2.93	0.48	0.83	10.55	0.84	2.67	2.05	2.99	37.40
1971-72	8.31	1.50	0.31	0.72	10.02	0.98	3.02	2.47	2.99	31.13
1972-73	13.39	2.16	0.42	0.91	10.73	1.42	2.55	2.86	3.33	38.73
1973-74	12.96	2.23	0.67	0.94	9.55	1.76	2.23	2.84	4.43	39.48
1974-75	14.31	2.12	0.77	1.14	15.15	1.61	3.97	3.38	3.85	47.97
1975-76	11.66	1.77	0.82	1.07	16.06	1.15	3.26	3.62	1.80	42.64
1976-77	14.72	2.00	0.86	1.12	15.59	2.29	2.83	4.23	3.22	48.43
1977-78	18.63	2.86	0.99	1.48	20.96	3.10	4.05	5.74	4.68	64.62
1978-79	14.63	2.58	0.94	1.33	21.05	2.97	3.11	4.89	4.91	58.44
1979-80	9.97	1.65	0.52	0.91	13.94	2.22	1.99	2.72	3.67	38.59
1980-81	12.21	1.93	0.51	1.03	20.84	3.32	2.63	3.70	4.30	51.48
1981-82P	20.81	3.44	1.48	1.72	30.24	5.31	5.46	6.48	7.55	84.38

P : Provisional

Source : Directorate of Sugar, Ministry of Food and Civil Supplies.

TABLE 12

Installed Capacity of Sugar Industry

(Lakh tonnes)

State	1971-72	1981-82	Percentage increase 1981-82 over 1971-72
1	2	3	4
Uttar Pradesh	12.63	15.85	25.5
Bihar	3.39	3.44	1.5
Punjab	0.55	0.88	60.0
Haryana	0.61	1.16	90.2
Maharashtra	9.97	20.76	108.2
Gujarat	1.66	4.22	154.2
Andhra Pradesh	2.83	4.96	75.3
Karnataka	2.89	5.51	90.7
Tamil Nadu	3.32	5.74	72.9
All-India	39.19	64.56	64.7

Source : Directorate of Sugar, Ministry of Food & Civil Supplies.

TABLE 13

Variations in Sugar Production

('000 tonnes)

Year	Actual Production	Estimated Trend Values	Diffe- rence
1	2	3	4
1969-70	4,262	3,481	(+)781
1970-71	3,740	3,654	(+) 86
1971-72	3,113	3,834	(-)721
1972-73	3,873	4,024	(-)151
1973-74	3,948	4,223	(-)275
1974-75	4,797	4,432	(+)365
1975-76	4,264	4,651	(-)387
1976-77	4,843	4,881	(-) 38
1977-78	6,462	5,122	(+)1340
1978-79	5,844	5,375	(+)469
1979-80	3,859	5,641	(-)1782
1980-81	5,148	5,920	(-)772
1981-82	8,438	6,213	(+)2225

NOTE : A function of the form $Y = ab^{X/c}$ was fitted for the time series of sugar production for the period 1969-70 to 1981-82, where Y indicated estimates of sugar production and X denoted the time in number of years. The difference shown in Col. (4) show the deviation of actual production from the trend values, so worked out.

TABLE 14
Statutory Minimum Prices of Sugarcane

Season (October to September)	Recommended by A.P.C.			Fixed by the Government		
	Price (Rs. per quintal)	Linked to a recovery (per cent)	Premium for every 0.1 per cent in- crease in basic recovery (Paise per quintal)	Price (Rs. per quintal)	Linked to a recovery (per cent)	Premium for every 0.1 per cent in- crease in basic recovery (Paise per quintal)
1	2	3	4	5	6	7
1967-68	5.68	9.4	4.00	7.37	9.4	5.36
1968-69.	7.25	9.0	5.36	7.37	9.4	5.36
1969-70.	7.26	9.2	5.36	7.37	9.4	5.36
1970-71.	7.35	9.2	5.00	7.37	9.4	6.60
1971-72.	7.37	9.4	6.60*	7.37	9.4	6.60
1972-73.	8.00	9.0	7.50	8.00	8.5	9.40
1973-74.	8.00	8.5	9.40	8.00	8.5	9.40
1974-75.	8.50	8.5	10.00	8.50	8.5	10.00
1975-76.	9.50	8.5	11.18	8.50	8.5	10.00
1976-77.	9.50	8.5	11.18	8.50	8.5	10.00
1977-78.	9.50	8.5	11.18	8.50	8.5	10.00
1978-79.	10.00@	8.5	11.76	10.00	8.5	11.76
1979-80.	10.00	8.5	11.76	12.50	8.5	14.71
1980-81.	13.00	8.5	15.29	13.00	8.5	15.29
1981-82.	15.50@@	8.5	18.24	13.00	8.5	15.29
1982-83.	13.50@@@ + 2.00	8.5	15.88	13.00	8.5	15.29

* : A like discount for recoveries below that level upto 8.4 per cent.

@ For 1978-79 season one member recommended a price of Rs. 12.50 per quintal linked to a recovery of 8.5 per cent with a premium of 10 paise for every increase of 0.1 per cent in recovery.

@@ For 1981-82 season one member recommended a price of Rs. 25.00 per quintal linked to recovery of 10 per cent and for 1982-83 season a price of Rs. 25 per quintal linked to a recovery of 9.5 per cent, with proportionate premium for every 0.1 per cent increase in recovery above the respective level.

NOTES : (i) For 1981-82 season, the statutory minimum price recommended by the Commission included the cost of transport within a radius of 16 Kms.

(ii) For 1982-83 season, the Commission recommended a statutory minimum price of Rs. 13.50 per quintal linked to a recovery of 8.5 per cent subject to a proportional premium for every 0.1 per cent increase in recovery above that level at farm. The Commission, in addition to this price, recommended an amount of Rs. 2.00 per quintal of cane to the grower towards the costs of transporting the cane from his field to the factory gate/purchase Centre within a radius of 16 Kms.

TABLE 15A

Estimates of Cost of Cultivation/Production and related Data for Sugarcane in Andhra Pradesh

Item	1977-78	1978-79	1979-80	1980-81
1	2	3	4	5
Cost of Cultivation per hectare (Rs.)				
A1	4625.48	3931.62	4604.40	5252.78
A2	4626.95	4002.56	4664.25	5252.78
B	7084.56	6112.59	8992.02	11116.39
C	7310.01	6357.69	9279.36	11288.56
Yield per hectare (quintals)	656.30	622.36	765.03	864.28
Value of the main Product per hectare (Rs.)	7216.52	6782.24	13365.56	17793.27
Value of the by-product per hectare (Rs.)	350.29	99.90	422.97	595.87
Cost of production per quintal (Rs.)				
A1	6.51	6.16	5.47	5.39
A2	6.52	6.27	5.54	5.39
B	10.26	9.66	11.20	12.17
C	10.60	10.06	11.58	12.37
Material and labour Inputs used per hectare				
Seed (quintals)	41.81	37.71	39.65	38.18
Fertiliser (Kgs. in terms of nutrients)	270.10	224.21	274.70	281.78
Manure (quintals)	59.65	27.02	33.77	32.97
Human labour (man hours)	3400.49	2897.98	3428.78	3217.75
Bullock labour (pair hours)	119.65	120.03	135.66	119.85

NOTES : 1. The estimates are provisional.

2. Cost of production per quintal is obtained by dividing the cost of cultivation per hectare (net of the value of by-product) by the yield per hectare.

3. Cost A1 pertains to the paid-out costs or expenses incurred in cash and kind on material inputs, hired human labour, bullock and machine labour (both hired and owned), etc. When rent paid for leased-in land is added to cost A1, one gets Cost A2, i.e. paid-out costs of a tenant cultivation. Cost B is obtained with the addition to Cost A2 of imputed rental value of owned land and interest on owned fixed capital and Cost C, with the further addition of the imputed value of the family labour.

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

TABLE 15B

Break-up of Cost of Cultivation per hectare of Sugarcane in Andhra Pradesh

(In rupees)

Cost Items	1977-78	1978-79	1979-80	1980-81
1	2	3	4	5
Operational Cost	4704.28	3993.51	4716.68	5190.90
Human labour	1749.55	1571.08	1922.01	2213.90
Casual	1397.57	1213.09	1514.87	1953.35
Attached	126.53	112.89	119.80	88.38
Family	225.45	245.10	287.34	172.17
Bullock labour	197.10	171.98	182.77	133.25
Hired	23.54	20.25	12.47	22.57
Owned	173.56	151.73	170.30	110.68
Machine labour	69.97	24.50	46.74	41.00
Hired	62.97	20.17	38.98	13.44
Owned	7.00	4.33	7.76	27.56
Seed	595.68	468.25	470.67	634.61
Fertilizer and manure	1202.39	980.28	1106.24	1321.88
Fertilizer	1096.25	906.25	1008.23	1235.68
Manure	106.14	74.03	98.01	86.20
Insecticides	5.10	0.99	3.05	13.68
Irrigation Charges	621.03	555.93	724.65	537.36
Interest on working capital.	263.46	220.49	260.55	295.22
Fixed Cost	2605.73	2364.19	4562.68	6097.66
Rental value of owned land.	2106.42	1810.20	3980.20	5420.50
Rent paid for leased in land.	1.47	70.94	59.85	..
Land revenue, cesses and taxes.	49.59	94.07	96.51	96.24
Depreciation on implements and farm buildings.	97.06	89.15	78.54	137.80
Interest on fixed capital.	351.19	299.82	347.58	443.12
TOTAL COST	7310.01	6357.69	9279.36	11288.56

TABLE 16A

Estimates of Cost of Cultivation/Production and related Data for Sugarcane in Uttar Pradesh

Item	1973-74	1974-75	1975-76	1976-77	1979-80	1980-81
1	2	3	4	5	6	7
Cost of cultivation per hectare (Rs.)						
A1	1513.43	1107.23	1276.18	1694.74	1554.87	1808.70
A2	1534.76	1151.37	1289.22	1848.62	1554.87	1815.81
B	2891.64	2517.02	2456.04	3247.05	2959.15	3707.41
C	3337.31	3001.18	2919.89	3854.27	3440.78	4549.02
Yield per hectare (quintals)	375.08	367.42	329.54	419.54	351.17	428.13
Value of the main product per hectare (Rs.)	4532.61	4769.85	3617.64	5071.79	6176.14	10002.81
Value of the by-product per hectare (Rs.)	405.87	361.68	397.45	504.11	361.27	556.97
Cost of production per quintal (Rs.)						
A1	2.95	2.03	2.67	2.84	3.40	2.92
A2	3.01	2.15	2.71	3.20	3.40	2.94
B	6.63	5.87	6.25	6.54	7.40	7.36
C	7.81	7.18	7.65	7.99	8.77	9.32
Material and labour Inputs used per hectare						
Seed (quintals)	29.69	15.58	18.81	25.39	18.81	24.94
Fertilizer (Kgs. in terms of nutrients)	60.54	33.59	27.68	70.48	81.69	63.48
Manure (quintals)	62.70	25.78	42.53	50.03	30.49	50.48
Human labour (man hours)	1326.55	1113.58	1164.52	1313.76	962.78	1178.63
Bullock labour (pair hours)	273.32	161.42	133.79	119.86	62.99	77.31

NOTES : 1. The estimates are provisional.

2. Cost of production per quintal is obtained by dividing the cost of cultivation per hectare (net of the value of by-product) by the yield per hectare.

3. Cost A1 pertains to the paid-out costs or expenses incurred in cash and kind on material inputs, hired human labour, bullock and machine labour (both hired and owned), etc. When rent paid for leased-in land is added to cost A1, one gets cost A2 i.e. paid-out costs of tenant cultivator. Cost B is obtained with the addition to Cost A2 of imputed rental value of owned land and interest on owned fixed capital, and Cost C, with the further addition of the imputed value of the family labour.

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

TABLE 16-B

Break-up of Cost of Cultivation per Hectare of Sugarcane in Uttar Pradesh.

Cost Items	1973-74	1974-75	1975-76	1976-77	1979-80	1980-81
1	2	3	4	5	6	7
<i>Operational Cost</i>	1,908.12	1,531.45	1,655.51	2,215.73	1,948.86	2,543.84
<i>Human Labour</i>	664.13	638.02	660.41	922.73	765.37	1,095.16
Casual	161.56	107.70	149.56	247.90	230.47	183.89
Attached	56.90	46.16	47.00	67.60	53.26	69.66
Family	445.67	484.16	463.85	607.23	481.64	841.61
<i>Bullock Labour</i>	391.32	265.08	239.94	218.64	244.33	231.96
Hired	15.08	4.46	0.71	1.88	1.34	2.00
Owned	376.24	260.62	239.23	216.76	242.99	229.96
<i>Machine labour</i>	30.45	32.28	25.99	27.33	39.26	32.32
Hired	13.41	13.47	16.98	23.32	5.48	9.56
Owned	17.04	18.81	9.01	4.01	33.78	22.76
<i>Seed</i>	372.88	191.74	230.62	303.13	217.50	480.74
<i>Fertilizer and manure</i>	206.79	187.76	198.22	351.99	328.83	370.21
Fertilizer	138.89	130.99	123.87	259.34	269.41	265.82
Manure	67.90	56.77	74.35	92.65	59.42	104.39
<i>Insecticides</i>	2.59	4.60	10.08	7.61	11.49	11.06
<i>Irrigation charges</i>	170.32	150.36	220.15	289.68	255.78	222.26
<i>Interest on working capital</i>	69.64	61.61	70.10	94.62	86.30	100.13
<i>Fixed Cost</i>	1,429.19	1,469.73	1,264.38	1,638.54	1,491.92	2,005.18
Rental value of owned land	1,237.78	1,210.63	969.31	1,177.22	1,113.35	1,570.65
Rent paid for lease-in land	21.33	44.14	13.04	153.87	..	7.11
Land revenue, cesses and taxes	7.44	20.43	33.70	21.85	35.03	35.13
Depreciation on implements and farm buildings	43.55	39.51	50.82	64.40	52.61	71.34
Interest on fixed capital	119.09	155.02	197.51	221.20	290.93	320.95
TOTAL COST	33,37.31	3,001.18	2,919.89	3,854.27	3,440.78	4,549.02

TABLE 17A

Estimates of Cost of Cultivation/Production and related Data for Sugarcane in Maharashtra

Item	1973-74	1974-75	1975-76	1976-77	1977-78	1979-80
1	2	3	4	5	6	7
Cost of cultivation per hectare (Rs.)						
A ₁	3,838.03	4,442.99	4,410.26	4,115.47	4,963.50	6,776.31
A ₂	3,838.03	4,446.96	4,437.52	4,164.38	5,047.86	6,776.31
B	5,607.85	6,654.18	6,227.16	5,594.45	6,651.84	10,061.09
C	6,058.77	7,057.34	6,580.61	5,841.33	6,920.78	10,487.54
Yield per hectare (quintals)	731.86	826.67	751.58	658.78	829.36	900.12
Value of the main product per hectare (Rs.)	10,465.73	12,377.12	10,336.54	8,516.43	9,613.88	17,775.65
Value of the by-Product per hectare (Rs.)	423.16	624.98	432.26	422.97	602.83	655.86
Cost of production per quintal (Rs.)						
A ₁	4.66	4.62	5.29	5.60	5.26	6.80
A ₂	4.66	4.62	5.33	5.68	5.36	6.80
B	7.08	7.29	7.71	7.85	7.29	10.45
C	7.70	7.78	8.18	8.22	7.62	10.92
Material and labour Inputs used per hectare						
Seed (Quintals)	35.36	22.94	29.30	23.27	25.77	40.46
Fertilizer (Kgs. in terms of nutrients)	226.34	250.84	231.08	237.45	338.02	428.27
Manure (Quintals)	70.18	61.68	56.83	29.66	30.35	72.64
Human labour (man hours)	2,795.99	2,961.61	2,836.78	2,607.61	2,785.03	3,124.27
Bullock labour (pair hours)	282.02	236.80	159.89	149.61	163.15	140.12

NOTES : 1. The estimates are provisional.

2. Cost of production per quintal is obtained by dividing the cost of cultivation per hectare (net of the value of by-product) by the yield per hectare.

3. Cost A₁, pertains to the paid-out costs or expenses incurred in cash and kind on material inputs, hired human labour, bullock and machine labour (both hired and owned), etc. When rent paid for leased-in land is added to cost A₁, one gets Cost A₂ i.e. paid-out costs of a tenant cultivator. Cost B is obtained with the addition to Cost A₂ of inputted rental value of owned land and interest on owned fixed capital, and Cost C, with the further addition of the inputted value of the family labour.

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

TABLE 17B

Break-up of Cost of Cultivation per hectare of Sugarcane in Maharashtra.

(In Rupees)

Cost Items	1973-74	1974-75	1975-76	1976-77	1977-78	1979-80
1	2	3	4	5	6	7
<i>Operational Cost</i>	4,022.91	4,569.40	4,559.77	4,144.96	5,019.29	6,960.80
<i>Human Labour</i>	1,238.40	1,398.06	1,522.44	1,326.61	1,651.08	2,156.58
Casual	667.43	894.82	1,052.18	1,007.17	1,334.81	1,604.93
Attached	120.05	100.09	116.81	72.56	47.32	125.20
Family	450.92	403.15	353.45	246.88	268.95	426.45
<i>Bullock labour</i>	346.32	255.10	236.69	174.01	181.78	313.63
Hired	69.72	49.36	24.28	39.49	56.92	53.30
Owned	276.60	205.74	212.41	134.52	124.86	260.33
<i>Machine labour</i>	55.98	33.77	28.31	19.91	28.74	60.32
Hired	46.94	29.61	28.31	19.91	28.74	59.21
Owned	9.04	4.16	..	..	..	1.11
<i>Seed</i>	528.70	341.07	503.08	437.64	435.37	606.70
<i>Fertilizer and Manure</i>	866.13	1,134.99	1,162.89	958.84	1,322.49	1,894.90
Fertilizer	639.03	962.14	972.73	835.75	1,223.21	1,544.71
Manure	227.10	172.85	190.11	123.09	99.28	350.19
<i>Insecticides</i>	6.34	..	..	0.17	1.30	3.68
<i>Irrigation charges</i>	810.94	1,161.34	858.98	998.48	1,119.10	1,540.62
<i>Interest on working capital</i>	170.10	245.07	247.43	229.30	279.43	384.37
<i>Fixed Cost</i>	2,035.86	2,487.94	2,020.84	1,696.37	1,901.49	3,526.74
Rental value of owned land	1,606.79	1,930.10	1,593.74	1,253.59	1,431.48	2,886.50
Rent paid for leased-in land	..	3.96	27.26	48.91	84.36	..
Land revenue, cesses and taxes	213.96	233.38	174.15	187.69	187.28	186.18
Depreciation on implements and farm buildings	52.08	43.38	29.79	29.70	25.87	55.77
Interest on fixed capital	163.03	277.12	195.90	176.48	172.50	398.29
TOTAL COST	6,058.77	7,057.34	6,580.61	5,841.33	6,920.78	10,487.54

CORRIGENDA

<u>Page</u>	<u>Para/Table/Col.</u>	<u>Line</u>	<u>As printed</u>	<u>As desired</u>
59	3.3/11	3	226	126
64	3.5/3	9	116	110
95	5.7/4	12	-8.2	-8.3
143	3.4/13	16	800	300
151	4.5/12	16	455	..
154	4.7/2	17	65.58	65.56
196	9	2	840	940
	9	3	510	580
	10	2.	730	750
	10	3	510	530
197	4	3	200	209
200	Note	1	ab*	AbX

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