

**EMERGING PROBLEMS OF AGRICULTURAL MARKETING  
WITH SPECIAL FOCUS ON  
PROCESSING AND INPUT SUPPLY  
(A Consolidated Report of AERC Studies)**

SH  
Jun

CHAND  
Jun

**ASHUTOSH SHRIVASTAVA**

**AGRO-ECONOMIC RESEARCH CENTRE FOR MADHYA PRADESH  
JNKVV, JABALPUR  
APRIL, 1996**

PROJECT TEAM

PROJECT LEADER

ASHUTOSH SHRIVASTAVA  
Research Officer

ASSOCIATES

SITA RAM  
Research Investigator

SHRIKANT UPADHYE  
Junior Computer

CHANDRAKANT MISHRA  
Junior Computer

TYPING

SIKANDAR KHAN  
SURESH KUMAR SHARMA

	<u>C O N T E N T S</u>	<u>PAGE</u>
<u>CHAPTER I</u>	<u>INTRODUCTION</u>	1 - 3
1.1	Introductory	1
1.2	The Present Study	1
1.3	Methodology and objectives	2
<u>CHAPTER II</u>	<u>SUMMARIES OF INDIVIDUAL REPORTS</u>	4 - 61
	<u>A.E.R. CENTRE, JABALPUR</u>	
2.1.1	Introductory	4
2.1.2	Objectives	4
2.1.3	Sample Design	4
2.1.4	Trends of Area Production and Yields of Gram and Soybean	5
2.1.5	Structure of Selected Markets	5
2.1.6	Arrivals of Selected Commodities	5
2.1.7	Price Movement of Gram and Soybean	6
2.1.8	Projection of Production, Marketed Surplus and Demand	6
2.1.9	Selected farmers	9
2.1.10	Policy Implications and Suggestions	12
	<u>A.E.R. CENTRE, ALLAHABAD</u>	
2.2.1	Introductory	13
2.2.2	Objectives	13
2.2.3	Sampling Design	13
2.2.4	Marketing Structure	14
2.2.5	Prices	14
2.2.6	The Selected Regions	15
2.2.7	Marketed Surplus	16
2.2.8	The processing	17
2.2.9	The Emerging Problems and Input Supply	18
2.2.10	Suggestions	19

A.E.R. CENTRE, JORHAT (ASSAM)

2.3.1	Introductory	21
2.3.2	The Structure of Jute Market	21
2.3.3	Marketing Channels	22
2.3.4	The Selected Jute Growers	23
2.3.5	Problems of Marketing	23
2.3.6	Processing and Input Supply	24
2.3.7	Conclusion and Suggestions	25

A.E.R. CENTRE, VISVA-BHARTI  
SANTINIKETAN

2.4.1	Introduction	27
2.4.2	Objectives	27
2.4.3	Methodology	27
2.4.4	Back ground	28
2.4.5	Marketed Surplus	29
2.4.6	Seasonal Pattern of Market Arrivals	29
2.4.7	Production, Requirements and Central Supply of Rice & Wheat	30
2.4.8	Projection, Production and Demand for the selected crops	30
2.4.9	The Marketing Structure	30
2.4.10	Husking Machines	31
2.4.11	Aratdars	31
2.4.12	Itinerant Traders	32
2.4.13	Price Movements	33
2.4.14	Marketing of Paddy and Oilseeds at the Farm Level	33
2.4.15	Policy Implications	35

A.E.R. CENTRE - DELHI

2.5.1	Introductory	37
2.5.2	Background of the study area	37
2.5.3	Marketing Structure	37
2.5.4	Marketable Surplus	38
2.5.5	Market Arrivals	39
2.5.6	Emerging Problems and input Supply	40
2.5.7	Policy implications and suggestions	41

A.E.R. CENTRE - MADRAS

2.6.1	Agriculture Marketing in Tamil Nadu	42
2.6.2	Methodology and Coverage	42
2.6.3	Paddy in Tamil Nadu	42
2.6.4	Thanjavur District	43
2.6.5	Groundnut in Tamil Nadu	43
2.6.6	South Arcot District	43
2.6.7	Market Arrivals	43
2.6.8	Projection of Estimates of Production	44
2.6.9	The Distribution	44
2.6.10	Marketing Channels	44
2.6.11	Processing Units	45
2.6.12	Regulated Markets	45
2.6.13	Selected Farms	45
2.6.14	Marketed Surplus	46

A.E.R. CENTRE - PUNE (MAHARASHTRA)

2.7.1	Crop Economy of Karnataka	47
2.7.2	Marketing of Spices	47
2.7.3	Agricultural Marketing Administration	48

2.7.4	Marketing and Export of Cardamom	48
2.7.5	Selected farms	50
2.7.6	Marketed Surplus	50
2.7.7	Marketing Channels	51
2.7.8	Problems of Marketing at Micro Level	51
2.7.9	Policy Implications	52

A.E.R. CENTRE - SHIMLA  
(HIMACHAL PRADESH)

2.8.1	Introduction	54
2.8.2	Growth in Area and Production	54
2.8.3	Trends in Fruit Export	55
2.8.4	Export of Potato	56
2.8.5	Export of Vegetables	56
2.8.6	Existing Problem	56
2.8.7	Horticulture Statistics	57
2.8.8	Picking, Assembling and Maintenance of Freshness	57
2.8.9	Standardization and Grading	57
2.8.10	Packing	57
2.8.11	Handling and Transportation	57
2.8.12	Wholesale Market	58
2.8.13	Pricing	58
2.8.14	Utilization of Culled Fruits	58
2.8.15	Regulation of Supply and Storage	58
2.8.16	Market Information	59
2.8.17	Emerging Needs	59
2.8.18	Future Projections	59
2.8.19	Suggestions for Improvements	59

## LIST OF TABLES

<u>TABLE NO.</u>	<u>PARTICULARS</u>	<u>PAGE</u>
	<u>CHAPTER I</u>	
1.1	Selected states/districts and crops for study	2
	<u>CHAPTER II</u>	
2.1	Observed and estimated production of pulses and gram for India, Madhya Pradesh and Narsinghpur district	7
2.2	Observed and estimated production of Oilseeds and soybean for India, Madhya Pradesh and Indore district.	7
2.3	Observed and estimated marketed surplus of gram in Narsinghpur mandi and soybean in Indore mandi, M.P.	8
2.4	Estimated marketed surplus of gram and soybean for India, Madhya Pradesh and selected districts	8

.....

## CHAPTER I

### INTRODUCTION

#### 1.1 Introductory

The Indian agricultural markets are strongly segmented across commodities and, therefore, each commodity market has its own specific problems. Grain markets have been more or less regulated except for distress<sup>sale</sup> and in specified regions. Secondly, the price variation and the price spread across groups also causes differential returns among different group of producers. Third important issue is the market access and market functioning across different groups. The price elasticities of marketed surplus, out put elasticities, timing of marketing are some of the important aspects, which assume great importances. Thirdly, the agricultural economy is shifting more towards commercial and superior crops which requires more and efficient marketing infrastructure. It is, therefore, necessary to understand changing trends in the crops and possible requirements of infrastructure.

The market channels for these are well established but the market access to the producers (especially weaker producers) and their price responsiveness would decide the further scope for such crops. These issues are of micro nature though the answers would influence the overall marketing structure.

#### 1.2 The Present Study

In the recent past, India has experienced tremendous changes in the agricultural sector. With the introduction of latest agro technologies and high yielding seeds and varieties the agricultural sector transformed from subsistence agriculture to market oriented one. However, with this transformation, the demand for working efficiency, proper supply of inputs and outputs, availability of credit, transportation, storages and opening of export of agricultural produces increased many fold. Thus, the agricultural marketing became a complex and challenging process which requires Govt interference. Therefore, looking to this complex situation, Ministry of Agriculture, Govt. of India initiated a common study in 1992 and asked all the Agro-Economic Research Centre to conduct the study titled "Emerging Problems of Agricultural Marketing with Special Focus on Input Supply" in the respective jurisdiction/state.



Every Centre was asked to conduct the study in one or more districts growing specific crops. (Table 1.1)

Table 1.1 Selected states/districts and crops for study

S. No.	Name of AERC	Selected State	Selected District	Crops
1.	AERC, Jabalpur	M.P.	Narsinghpur	Soybean and Gram
2.	AERC, Allahabad	U.P.	Gaziabad Merut, Gorakhpur & Deoria	Paddy, Gur and Khandsari
3.	AERC, Jorhat	Assam	Naugaon	Jute
4.	AERC, Shanti Niketan	West Bengal	Burdwar & Mushidabad	Paddy, Rape & Mustard
5.	AERC, Delhi	Haryana	Ambala & Hissar	Wheat, Paddy, Potato, Coton, & Sarson
6.	AERC, Shimla	Himachal Pradesh	Whole State	Fruits and Vegetable
7.	AERC, Madrass	Tamilnadu	South Arcot & Thanjavur district	Paddy and Grountnut
8.	AERC, Pune	Karnataka	Chickmaglore & Kogada	Cardamom & Arecanut

### 1.3 Methodology and objectives

Keeping in view the common guidelines prepared the following objectives have been set forth.

1. To study the present market structure and its functioning
2. To identify the emerging problems of marketing both for old and new crops with added focus on processing and input supply
3. To make projection of productions, marketed surplus, demand, availability of market centres for all crop in general and for selected crops in particular
4. To study the present arrangements available with regard to processing of selected commodities and their problems.
5. To examine the present processing facilities and adequacy to meet the future needs.

Since the crops selected varied from state to state considerably, it was not possible to make a combined or overall report. Therefore, summaries of the individual reports are made and given in the next chapter.

.....

## CHAPTER-II

### SUMMARIES OF INDIVIDUAL REPORTS-

AGRO-ECONOMIC RESEARCH CENTRE, JABALPUR

#### EMERGING PROBLEMS OF AGRICULTURAL MARKETING

##### WITH SPECIAL FOCUS ON

##### PROCESSING AND INPUT SUPPLY

#### 2.1.1 Introductory

Marketing included activities like preliminary processing at the producer's level, transportation, market channels, wholesalers and retailers. Processing is a part of marketing system and involved operations like grading, shelling, cleaning, extraction of oil, adding of preservatives, packaging, etc. For this study gram and soybean have been selected. In the case of gram the products sold by the farmer was unshelled gram. It was shelled in the dal mill, dried and stored for the deferred sale when the prices increased. In the case of soybean the processing facilities were not commensurate with the increased production.

#### 2.1.2 Objectives

The specific objectives of the study were :

1. To study the existing market structure and its efficiency covering both private and regulated markets;
2. To identify the emerging problems of marketing both for old and new crops with added focus on processing and input supply;
3. To make projections of production, marketed surplus, demand, availability of market centres for all crops in general and for the selected crops in particular;
4. To study the present arrangements available with regard to processing of selected commodities and their problems, and
5. To examine the present processing facilities and their adequacy to meet the future needs.

#### 2.1.3 Sample Design

Narsinghpur district was selected for gram and Indore district was selected for soybean. The selected districts belonged to two

different agro-climatic zones. In Narsinghpur district Narsinghpur mandi and in Indore district Indore mandi were selected. Further, 5 villages each were selected from the jurisdiction of the mandi and from each village, 10 farmers were selected by random method. Thus, the total sample included 2 districts, 2 mandis, 10 villages and 100 farmers. The reference year for the study was 1990-91.

#### 2.1.4 Trends of Area Production and Yields of Gram and Soybean

The growth rate of production in Narsinghpur district for pulses was 2.08 as compared to 1.28 for India and 1.40 for the state. The growth rate of productivity in Narsinghpur district was 1.44 as compared to 0.70 for India and 0.66 for the state.

The compound growth rates for area, production and yield for gram for India were (-) 0.26, 0.24 and 0.52 per cent respectively. These were 1.91, 2.54 and 0.61 per cent respectively for Madhya Pradesh. In Narsinghpur district the growth rates were 2.47, 2.81 and 0.34 per cent respectively.

The growth rates for area, production and yield for oilseeds for India were 2.39, 4.80 and 2.45 per cent respectively. These were higher for Madhya Pradesh viz. 4.57, 13.20 and 7.87 respectively. For Indore district the rates of area and production were 20.82 and 18.86 per cent respectively. However, the growth rate of yield was (-) 1.61.

The compound growth rates for area, production and yield for soybean for India were 16.92, 18.07 and 0.30 per cent. For Madhya Pradesh the growth rates were higher viz. 20.09, 28.13 and 6.69 per cent respectively. For Indore district the growth rates were 12.90, 22.12 and 8.27 per cent respectively.

#### 2.1.5 Structure of Selected Markets

There were 290 mandis, 293 sub mandis and 2,166 weekly markets in the state. There were 4 classes of mandis viz. A, B, C and D. There were 16 'A' class mandis, 33 'B' class mandis and 79 'C' class mandis. The number of 'D' class mandis were maximum (162 out of 290).

#### 2.1.6 Arrivals of Selected Commodities

Monthwise data on arrivals and prices was collected for 10 years from 1981-82 to 1990-91 from mandi records. The total quantity of

gulabi gram brought to mandi was 76,304 qtls. of which 38.16 per cent arrived in harvest season (March, April & May), 21.58 per cent in post harvest season (June, July and August), 32.41 per cent during sowing (September, October & November) and 7.85 per cent in the pre harvest season (December, January and February). In the case of local gram 51.80 per cent arrivals took place during harvesting season and nearly 20.00 per cent each in post harvest and sowing seasons.

A total quantity of 24,16,530 qtls. of soybean arrived in mandi. Of this 74.20 per cent arrivals took place in the harvesting season (October, November, December and January). During post harvest season (February, March, April and May) the arrivals reduced to 15.22 per cent.

#### 2.1.7 Price Movement of Gram and Soybean

The lowest minimum price of local gram was in the months of October and February while the highest maximum price was in September and November. In the case of gulabi gram the lowest minimum price was in March and April and maximum price in September and January. The prices depended on the arrivals. During harvest season the arrivals were high and the prices were low. During sowing and pre-harvest seasons the arrivals were weak and the prices soared.

The lowest minimum price of soybean was observed to be in the two months of September and October. The maximum price was reached in the two months of July and August. Thus, the fact that the prices reached the lowest during the harvest season and increased in post harvest and subsequently in the sowing and pre harvest seasons was proved in all the selected crops/varieties.

#### 2.1.8 Projection of Production, Market Surplus and Demand

The data on production of pulses was for a period of 20 years from 1971-72 to 1990-91. The data on production of oilseeds was taken for a 13 year period from 1978-79 to 1990-91. On the basis of this data the projections of production were made till the year 2000-2001. The method used was straight line method with the equation  $y = a + b x$ .

The three years referred were 1971-72 (the first year of the observed values), 1990-91 (the last year of the observed values) and 2000-2001 (the estimate at the beginning of the new century). (Table 2.1)

Table 2.1 Observed and estimated production of pulses and gram for India, Madhya Pradesh and Narsinghpur district

Year	(Figures - '000 tonnes)					
	Pulses			Gram		
	India	Madhya Pradesh	Narsinghpur district	India	Madhya Pradesh	Narsinghpur district
1971-72	11,049	2,353	113	5,081	1,148	70
1990-91	14,265	3,104	171	5,356	1,892	122
2000-2001	14,612	3,069	174	4,698	1,967	118

Equation derived

India	$Y = 10128.52 + 149.4647X$	$Y = 4836.464 - 4.606015X$
Madhya Pradesh	$Y = 1982.474 + 36.21203X$	$Y = 925.1159 + 34.74135X$
Narsinghpur district	$Y = 89.1579 + 2.842105X$	$Y = 45.53683 + 2.420302X$

In Madhya Pradesh the production picked up from 1983-84 and nearly followed the increasing trend. In the case of Indore district also the trend was of increasing nature (Table 2.2).

Table 2.2 Observed and estimated production of oilseeds and soybean for India, Madhya Pradesh &amp; Indore district

Year	(Figures - '000 tonnes)					
	Oilseeds			Soybean		
	India	Madhya Pradesh	Indore district	India	Madhya Pradesh	Indore district
1978-79	10,100	641	20	300	87	14
1990-91	18,609	3,210	189	2,602	2,184	188
2000-2001	24,231	4,526	249	3,463	3,105	251

Equation derived

India	$Y = 7671.231 + 720.011X$	$Y = (-) 167.6153 + 157.8352X$
Madhya Pradesh	$Y = 14.23071 + 196.1648X$	$Y = (-) 332.3461 + 149.467X$
Indore district	$Y = (-) 12.03846 + 11.36813X$	$Y = (-) 17.80769 + 11.68681X$

In the case of soybean the arrivals were nearly stagnant for the first 8 years. In 1990-91 these suddenly increased to 4,40,750 quintals (Table 2.3).

Table 2.3 Observed and estimated marketed surplus of gram in Narsinghpur mandi and soybean in Indore mandi, M.P.

(Figures - quintals)

Year	Gram	Soybean
	Narsinghpur mandi	Indore mandi
1981-82	35,854	2,70,358
1990-91	52,382	4,40,750
2000-2001	64,589	3,36,450

Equation derived :  $Y = 36702.27 + 1394.352X$   $Y = 205695.9 + 6537.734X$

It was observed that the percentage of marketed surplus to total production of gram was 76.01 and that for soybean, 88.02. Applying these proportions, the marketed surplus of gram and soybean were derived (Table 2.4).

Table 2.4 Estimated marketed surplus of gram and soybean for India, Madhya Pradesh and selected districts

(Figures - '000 tonnes)

Year	Gram			Soybean		
	India	Madhya Pradesh	Narsinghpur district	India	Madhya Pradesh	Indore district
1971-72	3,862	873	53	-	-	-
1978-79	-	-	-	264	77	12
1990-91	4,071	1,438	93	2,290	1,922	165
2000-2001	3,571	1,495	90	3,048	2,733	221

The estimated demand for pulses and oil was based on projected population upto 2001. The requirements of pulses and oil were calculated at the rate of 48 gm. of pulses and 40 gm. of oil per day per person.

The population of India in 1991 was 8,38,584 thousand persons. The population of Madhya Pradesh was 67,181 thousand persons and that of Narsinghpur district was 785 thousand persons. The population of Indore district was 1,836 thousand persons. The estimated compound growth rate for the country was 2.25. The rate of growth for Madhya Pradesh, Narsinghpur district and Indore district was taken to be 2.29.

The demand of pulses for the country in 1991 was 15,095 thousand tonnes. The demand would swell to 18,856 thousand tonnes by 2001. The demand for Madhya Pradesh in 1991 was 1,191 thousand tonnes. It would go up to 1,494 thousand tonnes by 2001. Similarly in the case of Narsinghpur district the demand in 1991 was 14 thousand tonnes. It is expected that the demand would increase to 18 thousand tonnes by 2001.

Against this the production of pulses in India is estimated to be 14,612 thousand tonnes. The production of Madhya Pradesh and Narsinghpur district would be 3,069 and 174 thousand tonnes respectively.

It is thus observed that the production of pulses in India would fall short of demand by 4,244 thousand tonnes by 2001. However, the production in Madhya Pradesh and Narsinghpur district would be in excess of demand by 1,575 thousand tonnes and 156 thousand tonnes respectively by the year 2001.

The demand of oil in the country in 1991 was 12,579 thousand tonnes. It is expected that the demand would increase to 15,713 thousand tonnes by 2001. The demand in Madhya Pradesh in 1991 was 993 thousand tonnes. By 2001 the demand would increase to 1,245 thousand tonnes. For Indore district the demand in 1991 stood at 28 thousand tonnes. It is expected to rise to 35 thousand tonnes by 2001.

The availability of soybean oil calculated on the basis of 20 per cent oil content was 520 thousand tonnes in the country. In 2001 it would increase to 693 thousand tonnes.

In Madhya Pradesh the availability was 437 thousand tonnes in 1991. In the year 2001 the availability would go up to 621 thousand tonnes.

In Indore district the availability of 38 thousand tonnes in 1991 would increase to 50 thousand tonnes in 2001.

#### 2.1.9 Selected farmers

Among the selected farmers 4 were marginal having land up to 1.00 hectare, 25 small farmers with land between 1.00- 2.00 hectares and 28 semi-medium farmers possessing 2.00-4.00 hectares. There were



27 medium size farmers owning land between 4.00- 10.00 hectares and 16 large farmers who occupied 10.00 hectares or more each. The operated area of the sample farmers was 517.13 hectares. Wheat, gram and soybean were important crops. The area covered by these crops was 80.79 per cent. The irrigated area was mainly occupied by wheat, gram and soybean.

The production of soybean was 4,880.00 quintals and that of wheat 3,501.30 quintals. The production of gram was 2,119.95 quintals. As regards disposal, it was noted that 91.74 per cent of pea, 84.40 per cent of soybean, 80.23 per cent of moong and 77.40 per cent of gram was sold. Jowar, wheat and arhar were produced for household consumption. The proportion of quantity sold was Nil, 59.89 and 66.26 respectively.

Of the total quantity of gram marketed, 32.58 per cent was sold to the traders in the village itself. Slightly more than 50.00 per cent (53.81) was sold in the mandi. The remaining 13.61 per cent was sold to the traders outside the village. Marginal and small farmers preferred sale outside the village. In the case of medium farmers 56.55 per cent of the produce was sold within the village. In the case of large farmers the percentage of produce sold within the village was only 21.67 and the proportion sold outside the village was 78.33. In the quantity sold outside the village the major proportion was in mandi. The average price fetched was Rs.645 per quintal. The price received within the village was Rs.617, whereas, the price received outside the village was Rs.658. While the price received from traders outside the village was Rs.621, the price received in mandi was Rs.667. While the maximum sales were undertaken in harvest season followed by post harvest season the prices were least in harvest season and increased in the post harvest season.

In the case of soybean of the total marketed surplus 43.44 per cent was sold to the traders in the village and 35.92 per cent to the oil federation in the village. Thus, 79.36 per cent of the produce was sold within the village. The oil federation played a major role in the procurement of soybean. The season wise marketing showed that 75.40 per cent of the marketed surplus was sold during harvest season and remaining 24.60 per cent in post harvest season. The average price of soybean was Rs.725 per quintal.

It was Rs.719 for the marketed surplus sold within the village and Rs.748 for the marketed surplus sold in the mandi. The price was lower in the harvest season (Rs.724) than the post harvest season (Rs.731). The farmers were aware of the plant protection measures and used these according to the needs. Nearly entire quantity of seed and FYM was home produced. Urea was obtained from cooperative societies to the extent of 67.53 per cent. DAP was procured to the extent of 32.02 per cent from the cooperative societies. Therefore, the farmers had to purchase fertilisers in open market at higher prices.

Among fertilisers, the doses of DAP and single super phosphate were lower than the recommended doses. However, the dose of urea was equal the recommended dose. The insecticides and pesticides were applied according to the infestation. The seed and manure of soybean were home produced. Only about 15 per cent of the seed was taken from cooperative societies. The quantity of culture purchased in the open market was 58.25 per cent. For fertilisers and insecticides farmers depended to a larger extent on cooperative societies. Only one third of the quantities of these were purchased from the open market. As regards quality, quantity and timeliness of inputs, two thirds of farmers had favourable opinion.

It was estimated that in one quintal of gram processed, 75kg. of fine dal was obtained. The damaged dal weighed about 2 kg. Among the by-products bran weighed 12 kg., shell 8 kg. and small pieces 3 kg. The value of main product and by products derived from a quintal of gram was Rs.875. With the purchase price of gram being Rs.700, the gross profit came to Rs.175 or 25.00 per cent over the purchase price.

Farmers sold soybean to different agencies and the agencies sold it to oil mills. The products obtained were oil and oilcake. One quintal of soybean contained 20 kg. of oil and 80 kg. of oilcakes. The price per quintal of oil was Rs.2,940 and that of oilcake Rs.570. Thus the value of oil came to Rs.588 and that of oilcake, Rs.456. The value of both the products together was Rs.1,044. The price of one quintal of soybean was Rs.930. The cost of processing was Rs.60 per quintal. With the product price of Rs.1,044, the net profit came to Rs.54 per quintal.

### 2.1.10 Policy Implications and Suggestions

The farmers suffered from three problems.

- (i) The product being less hardy was sold in harvest and post harvest seasons, when there was a glut in the market and the prices were low.
- (ii) As the farmer was not able to process, he was deprived of much higher prices of dal obtained in the later period.
- (iii) He not only faced distress sale but also had to wait for the returns for months.

The processors faced the problem of supply of electricity. It was neither adequate nor regular. The only way to benefit the small and big farmers was to set up dal mills in the cooperative sector.

Due to increasing production of soybean there was mounting pressure on the channels of marketing and markets themselves. However, due to the entry of oil federation (OILFED), the farmers have been benefitted by higher minimum prices and procurement in the village itself. The real beneficiary, however, was processor. He benefitted not only by oil which was a precious commodity but also by De Oiled Cake (DOC) which brought in foreign exchange. If they wanted to share benefits they should form cooperatives for marketing and oil mills. Efforts should be made to make use of DOC within the country. This would lessen the dependence on export.

Both gram and soybean needed new and costly inputs. Farmers searched for them far and near. It was observed that not all the inputs were stored by government agencies and cooperatives. The inputs suffered from the ills of quality, adequacy, timeliness and prices. It is suggested that all efforts should be made to supply these through cooperative societies.

Recently the government started the scheme of selling the fertilisers through mandis. It was also thought of supplying pesticides through 'OILFED' at subsidised rates. These were welcome steps.

.....



EMERGING PROBLEMS OF AGRICULTURAL MARKETING WITH SPECIAL FOCUS  
ON PROCESSING IN U.P.

2.2.1 Introductory

In order to study the emerging problems of agricultural marketing particularly processing in two important regions of the state of Uttar Pradesh, the present study entitled "Emerging Problems of Agricultural Marketing with Special Focus on Processing in Uttar Pradesh" has been undertaken and was confined to the western and eastern regions of Uttar Pradesh.

2.2.2 Objectives

The main objectives of the study were :

- (i) to find out the emerging problems of agricultural marketing at various levels,
- (ii) to study the existing marketing structure, efficiency and future potentialities of important agricultural commodities,
- (iii) to study the existing arrangements of main agro- processing units and their problems and
- (iv) to suggest measures for improving the system. The reference period was agricultural year 1989-90. The primary data of kharif season was referred from November, 1989 to October, 1990 and rabi season from April, 1990 to March, 1991.

2.2.3 Sampling Design

The study was undertaken in the western and eastern regions of the State. Two most important processing industries of rural areas from each region were selected on the basis of growth over the last five years. Such processing industries were wheat flour and gur/khandsari in Western region and rice and gur/khandsari in eastern region. Two districts from each selected regions having the maximum number of processing units in the rural areas of a particular category were selected. Such districts were Ghaziabad and Meerut in western region and Deoria and Gorakhpur in eastern region. From each of these selected districts 3 processing units of each category were selected on the basis of capacity utilization. Forward and backward linkages are established with regard to marketing, processed material and availability of raw material. For this

purpose nearest mandi catering to the needs of the particular type of processing units were selected. Again 3 villages around the mandi, one nearer, the other midway and the 3rd farthest were selected according to the maximum production of the raw material. Thus, 24 processing units, 4 mandies and 12 villages were selected. From these selected villages 10 producers producing a particular type of raw material were selected according to the probability proportional to the quantity produced. Thus, a total of 130 producers formed the ultimate sampling units for this study.

#### 2.2.4 Marketing Structure

The number of sub mandies associated with the main agricultural mandies were too less in both the selected regions which indicated that the system of agricultural marketing was not well developed in both the selected regions. Also, the number of development blocks covered by each mandi in eastern region was comparatively more than that in the western region and as such the coverage of agricultural mandies was larger in Eastern region. Accordingly the numbers of Gram Sabhas as well as Nyaya Panchayats were also larger in the mandies of the eastern region. The strength of market functionaries, such as commission agents, wholesalers, retailers and porters, was comparatively higher in the selected mandies of western region than that of eastern region.

In western region the market arrivals of wheat, gur and other commodities were higher than the eastern region. Moreover in the case of paddy it was highest in Hapur mandi of Ghaziabad district even in comparison to the mandies of eastern region.

#### 2.2.5 Prices

Among the mandies of western region the wholesale price of wheat was noted higher in Meerut mandi and that of gur was found higher in Hapur mandi of Ghaziabad. While in the mandies of eastern region the wholesale prices of wheat as well as gur were noted higher in Gorakhpur mandi, that of paddy was found higher in Tamkuhi road mandi of Deoria District. Thus, wholesale prices in western region were higher in comparison to all the important agricultural commodities in eastern region. The retail prices of wheat were higher in eastern region and that of gur in the western region.

### 2.2.6 The Selected Regions

The present study indicates that the system of agricultural marketing was comparatively more developed in western region than the eastern region. In western region, the arrivals of rice, paddy and khandsari were highest in Meerut district against the arrivals of these commodities in Ghaziabad district. Thus, Meerut was found more developed in the marketing of gur, khandsari and paddy, while Ghaziabad was more developed in the marketing of wheat. In Eastern region the market arrivals of wheat, paddy and khandsari were higher in Gorakhpur district as compared to the mandies of Deoria district. The arrivals of gur and rice were higher in Deoria district as compared to Gorakhpur district. Thus, Gorakhpur was more developed in respect of the marketing of wheat and paddy in the Eastern region.

The average intensity of cropping was higher being 197 per cent in eastern region against 158 per cent in the western region, though the area operated per holding was about three times more in the western region as compared to eastern region. But the proportion of gross cropped area on an average was higher in eastern region.

In western region, sugarcane of kharif season and wheat were important crops. While in eastern region, paddy of kharif and wheat were the important crops. Sugarcane was found to be second important kharif crop in eastern region which covered a considerable i.e. 14 per cent area of total area under kharif.

On an average the gross cropped area per holding in U.P. worked out to be 7.48 hectares. In western region it worked out to be 10.46 hectares per holding against 4.49 hectares per holding in the eastern region. The proportion of coverage during kharif season was higher than other seasons in both the regions of the State. Thus, more attention was given to kharif cropping than that of rabi and zaid cropping in both the regions.

In western region the average cost of production per quintal of wheat was Rs.237.64 and that of sugarcane, Rs.30.61 per quintal. The cost of production of wheat increased with the increase in the size of farms. But in case of sugarcane it was lowest on medium farms and highest on large farms. While in eastern region in the case of wheat it was slightly higher being Rs.238.75 per quintal but the cost of production of sugarcane was lower on the farms of

various categories. The marketing cost per quintal in the case of all the selected agricultural commodities in eastern region was higher as compared to that of the western region. The higher marketing cost in eastern region indicates that system of agricultural marketing in this region was comparatively less developed and required lot of improvements.

The average yield of wheat per hectare was 33.26 quintals in the eastern region against 51.92 quintals in western region. In eastern region reverse tendency was observed as the production of wheat was decreasing with the increase in the size of farms. Thus, small farms were more productive than medium and large farms in eastern region. In western region the medium farms were more productive. The production of sugarcane in eastern region being 536.63 quintals per hectare was much lower against 598.26 quintals of western region.

The average output of wheat was Rs.9,379 per hectare in eastern region, much lower than Rs.13,275 per hectare in the western region. The output of sugarcane was Rs.16,916 per hectare in western region. Thus growing sugarcane was more profitable than growing wheat in western region. The average production of paddy was 45.39 quintals per hectare and gave an output of Rs.9,024 per hectare which was just equal to that of wheat. In the case of paddy, the large farms were found to be more profitable than small and medium farms.

The average output per hectare of wheat was Rs.11,327 of sugarcane, Rs.14,923 and of paddy, Rs.9,024. Thus, sugarcane gave the maximum output per hectare. Among the two selected regions the western region had higher output than the eastern region. In eastern region paddy also gave a considerable output which was equivalent to that of wheat.

#### 2.2.7 Marketed Surplus

In eastern region only 26 quintals of wheat per farm was marketed against 56 quintals of wheat per farm in the western region and 41 quintals of wheat per farm in the state as a whole. Thus, the higher marketed surplus per farm in western region clearly indicates that farmers of western region were comparatively more prosperous. On an average 1,373 quintals of sugarcane per farm was marketed in the state. While in eastern region only 312 quintals per farm was marketed against 2,433 quintals per farm in the

western region. Thus in western region particularly sugarcane growers were more developed and prosperous while in eastern region the sugarcane growers were poor and backward.

#### 2.2.8 The processing

As regards processing from all the four selected mandies instead of 12 processing units from each category only 9 each from flour as well as gur and khandsari units and 6 from rice units were studied. Among the selected plants khandsari were the costliest plants having an average value of Rs.3.06 lakhs per plant. The average value of gur plant was the lowest being Rs.0.71 lakh per plant. The costs of flour and rice plants were more or less same.

The Khandsari plants used maximum raw material i.e. 2.09 lakhs quintals per plant with the minimum recovery percentage (5 per cent) as against the flour processing plants which used 2 thousand quintals of raw materials per plant with the maximum recovery percentage of 98.8 per cent.

The average recovery of rice plants was 61 per cent which was much less than that of big rice mills. The flour as well as rice plants did not get adequate quantity of raw materials.

In the case of both khandsari as well as gur the cost of raw material used was higher due to low recovery of the processed products, while in the case of flour and rice plants the cost of raw material was less because of higher recovery percentage in these products.

The disposal by the khandsari plants was the highest in terms of both physical quantity as well as value. The disposal of gur plants was minimum. The disposal of rice was higher in terms of physical quantity but in terms of value the disposal of flour plants was higher than that of the rice plants in both the selected regions.

The processing of flour as well as rice was equally profitable where the profit was Rs.10 per quintal. The sale price of rice was noted higher being Rs.357 per quintal against Rs.306 per quintal of flour. On the other hand khandsari was profitable



because of its higher sale price i.e. Rs.530 per quintal against Rs.375 per quintal of gur.

The total cost of processed product per quintal was highest being Rs.506.90 in the case of khandsari and lowest being Rs.296 per quintal in the case of flour. The marketing cost per quintal of processed product was also highest being Rs.25.90 in the case of khandsari and lowest being Rs.12 per quintal in the case of gur. The marketing cost in the case of flour and rice was more or less the same. The raw material was costliest i.e. Rs.250.75 per quintal in the case of flour processing and cheapest i.e. Rs.20.25 per quintal in the case of gur processing in both the regions.

#### 2.2.9 The Emerging Problems and Input Supply

The emerging problems of marketing, processing and supply of raw material were manifold and complicated in both the selected regions of the State.

Due to short crushing period farmers were forced to sell their entire sugarcane to private cane crushers at low prices. Also, due to faulty government policies on one hand farmers were encouraged to grow more sugarcane and on the other they were not guaranteed the crushing of the sugarcane.

Wrong weighing was reported at mills and purchase centres with the help of the officers and other concerned persons of the mills and complaints were not entertained. Also, farmers grew sugarcane presuming it a cash crop but the tradition of purchasing it on debt is still continuing by the mills and crushers due to which sugarcane growers suffer irreparable losses.

A majority of sugarcane growers reported that they were getting lower prices for rate on sugarcane in comparison to planted sugarcane and they were always afraid of the uncertainty of the supply of their sugarcane to the mills which started late in the season and closed early before the expiry of the season.

In western region it was reported that a bulk of wheat and gur went to Haryana and it became their produce. Also, a large quantity of wheat i.e., @ 5,000 trollyes per day goes to Delhi from

U.P. The transportation charges paid by the small farmers for Bhugies was higher than that of trolleys & other means.

Bribing and other malpractices were prevalent in the sanctioning of licences to crushers and gur plants. Also, where land was taken on lease for three or five years, it created lot of problems and litigations and as a result the plants were closed.

It was a common complaint of the majority of processing plants that they were unable to run to their full installed capacity due to lack of adequate raw material or poor supply from various places situated far way. It was also identified that about 70 per cent of the paddy and flour processing plants either belonged to the traders or were dominated by the traders belonging to urban areas.

Lack of cost consciousness and defective pricing policies of the government were the serious problems in successful running of the processing units. Power was costly alongwith motors and engines of any make and size. The share of cooperatives was increased due to which the number of members decreased. The sales tax rates were high and there was ban on selling.

Due to inadequate storage facilities the regular supply of raw material was affected badly. Lack of proper roads and link roads and arrangements of the supply of required raw material was the main problem due to which the farmers of remote areas could not supply their produce to the needy processing units. Also, transportation facilities were poor.

Inadequacy of finances was the main problem due to which there was acute shortage of mini flour and rice mills. Also lack of communication facilities was the major problems. Unremunerative prices to the farmers discouraged in producing the required agricultural commodities.

Lack of amenities with the processing plants was also reported to be the main reason due to which a large number of suppliers of raw material are not attracted by such processing plants.

#### 2.2.10 Suggestions

- (1) Provision of remunerative prices for farmers must be made to ensure economic return to them.

- (2) An efficient market news service should be provided to both the producers and consumers for adequate production, effective distribution and fair pricing of agricultural commodities.
- (3) All the existing and available transport facilities of various kinds should be improved and expanded in the rural areas for movement of agricultural produce to the markets and assembling centres.
- (4) Adequate storage and warehousing facilities should be assured at all the levels as storing is an important part of marketing.
- (5) Fair and standard weighing systems must be imposed at all the marketing and purchase centres both in the mandies and rural areas.
- (6) Number of regulated markets must be increased particularly in those rural areas where the important agricultural commodities are produced in plenty.
- (7) The crushing period of mills should be extended to longer duration and the prices of sugarcane must not fall below the support prices fixed by the Government.
- (8) The guarantee of crushing the sugarcane of farmers should be assured if they are encouraged to produce more sugarcane by opening more sugar mills and sanctioning more licences of crushers and gur plants.
- (9) Adequate finances should be facilitated to all the needy entrepreneurs of rural areas for processing plants in due course of time.
- (10) The sales tax must be either removed or lessened by 50 per cent through compounding or by eliminating the intermediaries.
- (11) Farmers particularly medium and large producers of important agricultural commodities should be organised on cooperative basis and strengthened the cooperatives by increasing the number of members.
- (12) The number of mini flour and rice mills, atta chakkies and crushers should be increased in the rural areas of both the regions of the state.

"EMERGING PROBLEMS OF AGRICULTURAL MARKETING WITH  
SPECIAL FOCUS ON PROCESSING AND INPUT SUPPLY

2.3.1 Introductory

Jute is one of the most important commercial fibre crops of the world. Though jute cultivation is mainly confined to India and Bangladesh, a few other countries of the world are also emerging as important producers of either jute or other fibre crops. The important jute growing States of India are Assam, West Bengal, Bihar, Orissa and Uttar Pradesh.

In Assam next to tea jute is the most important commercial crop. The major jute growing districts are Goalpara, Dhubri, Kokrajhar, Kamrup, Barpeta, Darrang, Morigaon and Nagaon.

In 1990-91 altogether 95,518 hectares of land was under jute cultivation in the state and the total production was 8,65,930 bales or 155.86 million kg. The average yield per hectare was 1,632 kg. However, It is observed that area under jute has been declining not only in Assam but also for country as a whole. India's total area under the crop was 940.7 thousand hectares in 1980-81 and it came down to 691.5 thousand hectares in 1988-89.

The main reasons of concentration of jute cultivation in the East and North-Eastern states of the country are favourable soil and weather conditions, availability of cheap labour, rainfall and retting facilities. A warm humid climate with rainfall between 127 mm. to 178 mm. during the rainy season spreading from March to September/October and more or less uniform temperature (around 31.5°C) provide ideal climate for jute cultivation.

The growers of this important cash crop are not getting remunerative prices mainly because of the vicious market system that is operating in Jute trade.

2.3.2 The structure of Jute Market

The jute market in Assam as elsewhere in the country is totally dominated by unregistered market functionaries/intermediaries with various operational capacities. There are two types of local

jute markets in Assam, viz. (1) primary markets and (2) secondary markets. The primary market mainly consists of the weekly or bi-weekly hats (markets) in the jute growing area. The secondary markets are usually located in towns or townships which are well connected with roads. The big jute traders operate in the secondary market and they have the facility to store jute fibre temporarily. The grading and baling of jute fibre is usually done at the secondary market. The traders of secondary market send their merchandise to Calcutta terminal market, usually by road transport.

### 2.3.3 Marketing Channels

The middlemen who are functioning in the primary market are locally called bepari, paikar, fariah, etc. Again, there are village fariah and market fariah. The village fariah are operating both in villages and hats, whereas, the market fariah operate only in the weekly or bi-weekly hats and their economic condition is better than the village fariah. Some of the village fariah collect jute from growers' houses. Both the village fariah and market fariah offer loan or advance to needy jute growers and the loanee growers have to sell their jute to those middlemen from whom they took advance. The small traders at the primary level of marketing play a significant role by assembling small supplies from the growers and thus facilitate orderly feeding of markets.

The price of jute in secondary market is slightly higher than that in the primary market. But most of the farmers cannot even sell their jute in secondary market because of distance, communication, transport, lack of information on prices and such other problems. The local traders like beparis, paikars, village fariah, etc. usually sell the procured jute to market fariah and sometimes directly to the kutchi balers operating in the secondary market. The village traders are operating with small amount of capital and so they can neither purchase sufficient quantity nor hold back jute in expectation of getting higher prices. The market fariah buy jute in large scale and sell it directly to Calcutta terminal market or to mill owners.

Besides the individual traders and middlemen, the jute Corporation of India (J.C.I.) also purchases a sizable quantity of jute from the farmers through their agents.

#### 2.3.4 The Selected Jute Growers

The total area under jute for the 50 sample farmers selected from two C.D. Blocks was 27.54 hectares and the total production was 545.30 quintals. The average yield per hectare was 1,980 kg. as compared to 1,632 kg. for the State as a whole in the year under reference.

It was found that knowledge of jute market information among the sample farmers was almost negligible. Many of the sample farmers have no knowledge about the support prices of jute fibre. So it was easy for the middlemen to exploit the jute growers by offering lower prices.

Of the total production, 540.25 quintals of jute was sold by the sample farmers and the average price per quintal was Rs.442.63. It was observed that the market prices were higher than government support price during the reference year. The per hectare gross return from jute cultivation worked out to Rs.8,683.00.

The jute growers sold jute in ungraded condition as they were not familiar with the grading process. On this pretext, the intermediaries offered lower price to the farmers as price of jute depends on grade. Some other identified problems faced by the jute growers in getting remunerative prices were :

#### 2.3.5 Problems of Marketing

- (1) Lack of storage facilities
- (2) Poor quality of produce due to poor retting facility
- (3) Variations in the quality of production of jute fibre
- (4) Transportation bottlenecks and
- (5) Absence of organised market, market intelligence and market prices.

It was observed that there had been a marked decline in area under jute in Nagaon district as well as in the State of Assam during the period 1980-81 to 1990-91. Along with the decline in area, production for both the regions was also fluctuating for the said period. Fluctuations in productivity led to variations in prices and farm income. The farmers were inclined to cover more area under jute and shifted the area to other competing crops. This is one of

the major factors of decline in area under jute over the years. Variations in productivity of jute in Assam are dependent on some important factors like favourable climatic conditions, floods or other natural calamities, price of jute and demand in the terminal market.

#### 2.3.6 Processing and Input Supply

The various stages of processing of jute start from harvesting, cutting and bunding, retting, extraction, drying, grading and finally transported to the jute mills for final processing. The processing operations like harvesting, retting, extraction, drying etc. are done at the growers' level. Standardisation and grading are done at the secondary market functionaries' level before sending the jute fibre to the terminal market or jute mills.

Retting is opined to be the basic factor to maintain quality and brightness of jute fibre. For proper retting ideal pucca retting tank and weights like concrete slabs, bricks, stones, dry logs, etc. are necessary. But for want of these items and partially for ignorance, the farmers submerged the jute stick bundles in any available water source and used materials like mud clods, banana stems, freshly cut log, etc. as weights and these spoiled the quality of jute fibre to a great extent. As a result the farmers got lower price for such jute fibre and thus the growers incur losses in jute cultivation.

Grading is yet another important processing operation as price of jute is offered by the traders on the basis of grade of the jute. But the local farmers are not familiar with the grading process. So they sell the jute in ungraded condition. The middlemen decided the grade of jute only on eye estimation and naturally the traders take the advantage to offer lower prices. The traders thus make more profit by under estimating the grade of jute fibre and deprived the growers from remunerative prices.

Another important factor of getting lower prices by the jute growers of North-East India for their jute is the non-existence of adequate number of jute mills in the area. A jute grower in West Bengal gets much higher price than a jute grower in Assam. As N.E. India is located far away from the jute mills in Calcutta, the jute growers have to sacrifice a considerable amount to cover the high transport cost to Calcutta.

It was found that most of the jute farmers used hybrid seeds supplied by State Agriculture Department. But sometimes late supply of seeds created problems. Use of organic manure like cowdung and compost was found to be negligible. Chemical fertilisers have become popular. But the farmers have not applied the recommended doses of chemical fertilisers mainly due to poor economic conditions and lack of institutional loan within easy reach. Many of the farmers have to complete some of the time-bound operations like weeding, thinning etc. by engaging hired labourers. This has naturally increased the cost of cultivation of jute.

It was estimated that for cultivating jute in one hectare of land human labour input of 174 mandays and animal labour for 35.11 pair-days was required. The total input cost for one hectare of jute cultivation was estimated at Rs.7,751.23 and the gross return was calculated at Rs.8,613.00. Thus, the net return from jute cultivation per hectare was found to be Rs.861.77. This per hectare return was in no way, encouraging and remunerative. Perhaps, this is one of the important factors due to which area under jute has declined in the recent years.

#### 2.3.7 Conclusion and Suggestions

From the findings of the study and observations the following conclusions and suggestions are drawn :

- (i) Supply of quality seeds, fertilizers, plant protection materials should be timely. There should be more distribution points for the above material so that farmers got the above inputs easily.
- (ii) For production of quality jute fibre there should be sufficient number of pucca retting tanks in jute growing areas. Proper care may be taken in this regard under the Special Jute Development Programme of the government. The State government may also take steps to improve the quality of jute by improving the retting process.
- (iii) Either the State Government or the Central Government may introduce some training programme to the farmers on retting and grading as quality and price of jute fibre depended on these to a great extent.



- (iv) There should be provision for timely visit and free consultancy service to the jute growers by experts in the field.
- (v) Provision of institutional credit to the jute growers at easy terms is urgently needed to make them free from the clutches of the middlemen who hitherto offer them loan. This provision will enable the farmers to invest more in required inputs in jute fields.
- (vi) The Government of India may allow the Jute Corporation of India (J.C.I.) to operate more vigorously in the jute market so that they may procure a major portion of jute.
- (vii) The government may encourage the State~~d~~ed and other recognised marketing organisations to play an active role in the jute market. This will help the farmers from being exploited by the scrupulous middlemen.
- (viii) With the diversification of production process, there is scope of establishing modern mills in jute growing belts in the state to produce such items which have demand in internal as well as international markets. To examine the feasibility of such a venture the government may institute a techno-economic survey by a competent organisation.

.....

AGRO-ECONOMIC RESEARCH CENTRE  
VISVA-BHARTI  
SANTINIKETAN

STUDY OF EMERGING PROBLEMS OF AGRICULTURAL MARKETING  
WITH SPECIAL FOCUS ON PROCESSING AND INPUT SUPPLIES  
(WEST BENGAL)

2.4.1 Introduction

A considerable progress has been achieved in technological developments in agriculture by the use of high yielding variety seeds, chemical fertilizers and other complementary inputs, resulting in a substantial increase in the production of cereals, particularly rice in West Bengal. The state has also witnessed a marked increase in the production of oilseeds, particularly rape and mustard. The production of rape and mustard has recorded an increase from 35.7 thousand tonnes in 1970-71 to 324.7 thousand tonnes in 1989-90, i.e. an increase by more than 800 per cent.

These developments have no doubt exerted much stress and strain on the existing marketing facilities, particularly relating to processing, storage, transportation and other accompanying services.

2.4.2 Objectives :

The major objectives of the study were :

- (i) To study the existing market structure covering both the public and private sectors and arrangements for processing of the selected commodities.
- (ii) To study the seasonal pattern of market arrivals and movement of prices over time and space.
- (iii) To make projections of production, marketable surplus, and demand of the selected crops.
- (iv) And to indentify the emerging problems of marketing of the selected crops and to suggest policy recommendations to safeguard the interests of both the producers and consumers.

2.4.3 Methodology

This study was undertaken in the districts of Burdwan and Murshidabad of West Bengal. The former district was selected for studying the problems of paddy marketing and the latter for rape and mustard. From each district, two blocks and from each block one

village was selected for the study. From each village 25 farming households were selected following random sampling method from the list of farming households. Thus, in all 100 farmers were selected for the study.

#### 2.4.4 Back ground

West Bengal is the largest rice producing state in the country, accounting for more than 16 per cent of total production (1987-88). Rice is grown in this state during both kharif and summer seasons.

However the area under kharif rice has been almost constant with minor fluctuations during the period between 1970-71 and 1989-90. In the case of summer rice a marked rise in the area which increased from 186.5 thousand hectares in 1970-71 to 756.9 thousand hectares in 1989-90. The overall production of rice in the state showed an increase by 78 per cent during this period.

The districts of Burdwan and Murshidabad (the former one was selected for the study on the marketing of paddy and the latter for oilseeds) had the similar experiences as that of the state in respect of the trends in the area and production of rice for the period 1970-71 to 1989-90. The overall increase in the area under rice was marginal during the period, however, the area under summer rice showed a continuous rise in both the districts during the period. The production of rice in these districts increased by nearly 85 per cent during the period between 1970-71 and 1989-90.

The total production of rice in the state increased at the rate of 2.92 per cent per annum (which is higher than the rate of growth of population in the state). In the districts of Burdwan and Murshidabad it is 3.10 per cent and 3.15 per cent respectively.

The area under paddy and oilseeds began to step up gradually from the late seventies and the rate of increase became much sharper from the mid eighties. The production of rape and mustard in the state increased by more than 800 per cent and that of total oilseeds by 600 per cent during this period.

The districts of Murshidabad and Burdwan also exhibited the similar experience. The rate of increase in both area and production of rape and mustard in these two districts was much higher than the corresponding rate of increase in total oilseeds.

It must be pointed out that West Bengal is a deficit state in respect of oilseeds production. Although oilseeds, particularly rape and mustard have shown a remarkable growth in production during the last decade, still there exists a huge gap (75%) between their production and consumption requirements.

The total area and production of rape and mustard in the state increased at the rate of 6.23 and 11.67 per cent per annum the corresponding figures for the districts are 7.28 and 11.91 per cent for Murshidabad and 13.84 and 20.27 per cent for Burdwan district respectively.

#### 2.4.5 Marketed Surplus

It is observed that the proportion of produce of rice going to the 39 assembling markets tended to increase rising from 16 per cent in 1972-73 to 20 per cent in 1976-77 and thereafter it remained almost unchanged. However, these arrivals did not include the transactions made by unauthorised dealers in these markets which had significantly increased during the last decade. Further, during this period, a large number of wayside markets had come up both at the village and urban areas where transactions were mostly done by unauthorised dealers and petty traders-cum-processers. The volume of transactions both in the form of paddy and rice in these markets increased remarkably over the years. Thus, the actual sales by producers could be much larger than the sales recorded at the wholesale assembling markets.

#### 2.4.6 Seasonal Pattern of Market Arrivals

The pattern of market arrivals had undergone a sea change over the years. The first two quarters, i.e. October to December the post harvest period of aus rice and January to March the post-harvest period of aman rice, accounted for the bulk of the sales in the early years, and incoming of the commodity into these markets was heaviest in the second quarter. However, their share in total arrivals had gradually declined over the years, while the share of the last two quarters, particularly the last quarter the post-harvest period of summer rice, had gained importance and tendency for an even pattern of sales of rice had developed since the mid-seventies in the state.

#### 2.4.7 Production, Requirements and Central Supply of Rice & Wheat

West Bengal, chronically food deficit state, had attained self sufficiency in the production of rice in 1989. However, in the case of wheat, the production fell short by nearly 25 per cent of its requirements. Thus, even with a surplus in rice production the state experienced a deficit of about 13 per cent of its total foodgrains requirements in the late eighties.

#### 2.4.8 Projection, Production and Demand for the selected Crops

The state is likely to experience a continuous surplus of rice production during the nineties if the present growth rate is maintained, while in the case of wheat, it is reverse. The gap between production and total requirements for consumption in this state will widen over the years. However, in terms of total requirements of foodgrains (rice and wheat taken together) the state will attain self sufficiency in 1991-92. The progress of rape and mustard cultivation since the mid seventies has been quite impressive. The production of this crop has recorded an increase of 11.67 per cent per annum during the period from 1970-71 to 1989-90. However, only at about a quarter of the state's requirements is met from the internal production.

#### 2.4.9 The Marketing Structure

The most important channel of marketing of paddy and rice in the private sector was rice mills. It has been observed that most of the rice mills in the state were not getting sufficient supply of paddy from cultivators or aratdars in order to run their mills at a reasonable capacity utilisation. Thus, they are depending on procurement from other states, such as, Andhra Pradesh, Rajasthan and Uttar Pradesh in order to make good the short supply of paddy from within the state.

Moreover, the number of rice mills in the state dropped from 711 in 1970 to 373 in 1989. Further, it is the capacity utilization of the rice mills tended to decline over the years. It was 42.5 per cent in 1969-70 which dropped to 22.8 per cent in 1980-81. The proportion of the state's total production of paddy milled by rice mills was as low as 9.2 per cent in 1969-70 which further dropped to 2.5 per cent in 1990-91. All these evidences indicate that the rice mills, the most important channel in the private sector, have

lost their importance in the paddy and rice trade gradually over these years in this state. Various factors, such as, imposition of levy on rice mills, fixation of prices on levy rice much below the market price, etc. are attributed for this decline. However, the major threat came from the phenomenal rise in the number of husking machines (single puller), particularly unlicensed ones.

#### 2.4.10 Husking Machines

Husking machines began to penetrate the rural areas of the state in the early fifties. The number of licensed husking machines increased from 500 in 1951 to 10,068 in 1989. Alongwith this there are unlicensed husking machines which are operating on a much wider scale in the rural areas. The number of such machines is estimated to be four to five times of the licensed ones. These machines together processed phenomenal 97.5 per cent of the total rice production. With this mushroom growth of husking machines, petty trading of rice and paddy proliferated in the state. Husking machines help these traders in processing their products while the pre processing functions (parboiling etc.) are done by the traders at their homes mostly by their family members. The owners of husking machines also indulge in clandestine milling as well as trading, ignoring the restrictions imposed on them. Thus, there has been a significant diversion of marketed surplus away from the normal markets and the government and the rice mills have no control over the marketed surplus in the state. Neither the state administration could curb this undesirable development in the paddy/rice trade, nor the rice mills could adapt themselves to the changed situation.

#### 2.4.11 Aratdars

Most of aratdars are purchase agents of rice mills who purchase paddy directly from the producers and deliver them to the rice mills they are attached with, against a stipulated commission. A few of them also carry out business on their own account and sell the stock to different rice mills of their choice within or outside the district they purchase from.

The main feature of such trade centering round the husking machines is that, it involves a large number of people mostly drawn from local inhabitants, who perform different operations in paddy

processing, such as, cleaning, soaking, parboiling, drying, carting, weighing, bagging, etc. Husking machines do the milling part and these traders undertake the marketing of the rice produced. In the recent past their number as well as the volume of business has phenomenally increased. And a good part of the stock in these markets is transported to other districts, states and even to Bangladesh, tactfully, circumventing all the restrictions on the inter district/inter state/inter country movements of cereals.

#### 2.4.12 Itinerant Traders

Itinerant Traders are the agents of traders-cum-processers, move from one village to another and buy directly from the farmers and deliver the same to their employers.

The cultivation of rape & mustard crop has recorded a marked increase during the recent period but still only about a quarter of the state's requirement of mustard oil is fulfilled. Moreover, the cultivation of this crop on a wider scale is confined to a few districts where the growers could spare a part of their produce to the markets.

The marketing season for rape and mustard usually commences in February and is over by April. Mostly rural poor peasantry, move from one village to another and purchase directly from the producers. The following marketing functionaries have been identified in the selected districts :

- (1) Itinery traders : This class of traders has emerged with the spread of cultivation of rape and mustard in the area.
- (2) Aratdars : Operate from a market centre and employed agents to buy oilseeds directly from farmers as well as from local markets. They also carry out business other than oilseeds like- pulses, cereals fertilisers and vegetables.
- (3) Oil mills : There were 3 types of oil mills operating.
  - (a) Small oil mills : operate from periphery of agro urban centres.
  - (b) Medium class mills : These mills purchase oilseeds mostly from the local markets or from farmers or through traders.



- (c) Large size mills : Mostly equipped with modern facilities of processing, packaging, etc. and handle greater capacity other than above 2 classes.

#### 2.4.12 Price Movements

The prices of rice showed an upward trend during the period from 1970 to 1989. During the immediate post harvest months of aman rice (September and October) recorded a relatively higher rate of increase in prices of rice than the remaining months. However, the gap between the lowest and highest prices have narrowed down over the years and the inter market price differences gradually narrowed down from the late seventies, and continued to remain low throughout the rest of the period.

It is clear from the study that although the rice prices recorded an increasing trend over the years, the inter month price fluctuations and inter market price differences have gradually narrowed down during the period of study. This is mainly due to two reasons :

First, with the widespread adoption of summer paddy, the market arrivals of paddy/rice are now evenly distributed throughout the year, and secondly, the market for paddy and rice centering around the mushroom growth of husking machines, had been greatly decentralised. The large number of petty traders engaged in paddy and rice trade have started playing a very important role in the sphere of rice trade. This phenomenon is providing large/ scale scope for smuggling of the commodity across districts, state and even national borders.

#### 2.4.13 Marketing of Paddy and Oilseeds at the Farm Level

In both the districts nearly two thirds of the households belonged to the categories of small and marginal holdings and they possessed a little over one third of the operated area. The average size of holding was 5.36 acres in Burdwan and 5.49 acres in Murshidabad.

In Burdwan, the proportion of net operated area receiving irrigation (through Damodar Valley Project) during the kharif season was one hundred per cent, and it was 46 per cent and 45



per cent in the rabi and summer seasons respectively. The corresponding figures for the district of Murshidabad were 76 per cent, 72 per cent and 8 per cent respectively.

In Burdwan the main crop was paddy mainly HYV, which was grown during the kharif and summer seasons. It formed more than 72 per cent of the cropped area. Potato, oilseeds, onion, jute and wheat, forming, 10 per cent, 8 per cent, 5 per cent, 4 per cent and 0.5 per cent respectively.

In Murshidabad, paddy was the main crop, forming 45 per cent of the total cropped area. It was cultivated mainly (95 per cent) during the kharif season. The other important crops were oilseeds, jute and chillies which formed 24 per cent, 16 per cent and 10 per cent respectively. In Burdwan villages summer paddy constituted nearly 36 per cent of the total receipts. The proportion of sale of paddy was 68 per cent of total receipts and 88 per cent of total marketable surplus. It was quite high among the marginal and small farmers. It was 54 per cent among the former and 63 per cent among the latter.

In Murshidabad the summer paddy formed a little over 11 per cent of total receipts. The proportion of sales to total receipts was 54 per cent in the selected villages. The proportion of sales to total marketable surplus (i.e. balance available for sale) was 84.2 per cent.

The high proportion of marketed surplus (sales) to total marketable surplus was quite high in both Burdwan (88 per cent) and Murshidabad (84 per cent). This indicated that paddy was no longer considered as a subsistence crop.

Farmers in Burdwan villages sold as much as 72 per cent of their marketed surplus to itinerary traders of petty traders cum processors who purchased directly from the farmers in their respective villages. The other agencies were 'aratdars' and government, which accounted for 26 per cent and 2 per cent of total sales respectively.

In Murshidabad more than 77 per cent of the total marketed surplus among the farmers was netted by itinerary traders and

petty traders cum processors and the rest, by aratdars. The proportion of sales to aratdars showed a rising trend with the increase in the size classes of holdings. It was 11.7 per cent among the marginal farmers which gradually increased to 38.4 per cent among the large farmers.

Market arrivals of rape and mustard increased during the recent period in Murshidabad where the crop was cultivated on a wider scale than other districts in the state. Nearly 83 per cent of total production of rape and mustard in Murshidabad villages was sold. The proportion of sales to total receipts was lowest (77 per cent) among the marginal farmers and highest (87 per cent) among the large farmers. In Burdwan villages, where this crop was cultivated on a small scale, the proportion of sales to total production was 38 per cent. This varied between 29.4 per cent among the semi medium farmers and 52.5 per cent among the small farmers. In both Murshidabad and Burdwan villages, farmers sold their produce to itinerary traders at their door steps. These traders, on the other hand sold their stock to aratdars or oil millers in the neighbouring markets.

The sale activities were confined to three months from March to May. Farmers also processed a part of their produce through the nearby oil mills against custom charges for their home consumption.

#### 2.4.14 Policy Implications

It is noted from the foregoing analysis that following the mushrooming of husking machines, small trading in paddy and rice had assumed a very significant place in respect of both processing and distribution of rice in West Bengal. The processing of rice had come overwhelmingly under the control of husking machines located mostly in the villages or in the periphery of the agro urban centres. In the process, rice mills had lost their importance in the processing of paddy in the state. Their share in the processing was reduced to 2.5 per cent of the state's total production of paddy in 1990-91. As a result, there has been a loss of bran oil a by product processed from rice bran supplied by the rice mills. Moreover, there was a loss of grains because the recovery rate in husking machines was lower (by 5 per cent to 7 per cent) than in rice mills. It is thus obvious that necessary measures should be taken to recover these losses.

In the process of widespread growth of petty trading on rice centering around the mushroom growth of husking machines, the government had lost control over the marketed surplus in the state. The collection of levy from rice mills, - the only source of procurement, was reduced to only 0.17 per cent of total production of rice in the state. West Bengal still being a deficit state in respect of food-grains production cannot abandon internal procurement. However, the present process of rapid decentralisation in marketing through the husking machines render mobilisation of decentralised trading had resulted in narrowing down the spatial and seasonal prices of rice. It had provided large scope for clandestine transportation of both paddy and rice not only to other states but also to Bangladesh. Thus, appropriate measures should be taken to centralise trading as well as modernise processing of rice which would strengthen the process of state intervention in paddy and rice marketing.

Similar to paddy, the trading in rape and mustard at the village level is in the hands of petty itinerary traders. These traders purchased directly from the growers and immediately deliver to aratdars or oilmillers with whom they are usually attached as their commission agents. Thus, ultimately the entire marketed surplus of this crop goes to a small number of traders within three months of the post harvest period. This class of traders thus could only enjoy the benefit of price rise in the lean months. In view of this, efforts could be made to form a cooperative marketing society which would enable the farmers to enjoy the benefit of price rise of their produce.

.....

"EMERGING PROBLEMS OF AGRICULTURAL MARKETING WITH SPECIAL  
FOCUS ON INPUT SUPPLIES AND PROCESSING UNITS"

2.5.1 Introductory

The study is restricted to the state of Haryana. Wheat, Cotton, paddy etc. cover a sizeable portion of the net irrigated and cultivated area in the state. To give a fair representation to the important crops, particularly, wheat, paddy and cotton two districts were selected. Ambala was well developed and relatively less developed, Hissar.

2.5.2 Background of the study area

Due to irrigation facilities and nature of soil mass, Ambala is a paddy-wheat area and Hissar is mainly a cotton-wheat area. Govt. canals serve to a large extent the irrigation needs of both the districts. Haryana as a whole is relatively developed state in agriculture. A well laid out net-work of regulated markets is functioning in the state. According to the State Agricultural Marketing Board no village is located outside the radius of 5 km. from either a regulated main market yard, or sub-yard or a purchase centre. But there is substantial inter-district variation in the area and villages served by each regulated market. For example, area covered by an average regulated market has remained constant in Hissar during 1984-89, whereas, it has been decreasing in Ambala and the state as a whole. Upto 1992-93, the average area served by regulated markets in Ambala has further gone down to 265 km<sup>2</sup> and in the state to 451 km<sup>2</sup>. On the other hand in district Hissar it is 523 km<sup>2</sup>. But if the situation is observed from the point of view of villages served by each regulated market, it appears to be just contrary to that of area served by each market. For example the number of villages served by average regulated market in Ambala in 1992-93 had been as high as 83 in comparison to 47 in Hissar and 68 in the state as a whole.

2.5.3 Marketing Structure

Barring sugarcane which is either marketed at the mill gates or crushed to make jaggery, all the crops are marketed at 4 levels in Haryana : (1) in the village- (a) to the village merchant and (b) to the itinerant trader, (2) at the purchase centre, (3) in regulated sub-market yards and, (4) in main regulated market yards.

Statutorily, sale in villages is not permitted under the regulated markets act because it was feared that sale in villages leads to farmer's exploitation through less price, underweighment and many malpractices and deductions. Hence, sale and purchase were made legally permissible at the regulated market centres only, where the produce is sold through open auction at competitive prices; weighment is carried out by the licensee weighment immediate payment is ensured by the market committee, unauthorised deductions are not allowed and most of the expenses not directly related with sale or related with purchase have been shifted on to the buyers.

But in practice, neither the sale in the villages has been completely stopped nor it appears to be as beneficial to the farmers as it should have been and it was supposed to be in the regulated markets.

#### 2.5.4 Marketable Surplus

The marketable surplus disposed off in the regulated market yards, official data for which are available, varies with regard to different crops, places and over period. For example, mean values of market arrivals for the period 1981-82 to 1991-92 show that percentage of wheat marketed in the regulated market varies between 41 per cent in district Hissar to 45.5 per cent in district Ambala and merely 38 per cent in the state as a whole. Percentage of paddy marketed in the village is almost nil, as about 97 to 98 per cent of production is sold through regulated markets and the rest is either paid in kind or retained for seed and other purposes. But unlike paddy, less than 50 per cent of production of cotton is marketed in the yards.

Examples of spatial variation of marketed surplus are of paddy in Hissar and Cotton in Ambala. Marketed surplus of paddy disposed off in Hissar works out to be 108 per cent of production and that of cotton in Ambala 112 per cent of production. It shows that there is significant inter-district movement of marketable surplus. Best example can be of potato marketing. In Ambala only 30 per cent of potato production is marketed whereas, in Hissar the marketed quantity of potato is 183 per cent of production. However, the marketable surplus of gram sold in regulated markets is the lowest, (Only 32 per cent) of production.

### 2.5.5 Market Arrivals

Based on time series data for the period 1981-82 to 1993-94, market arrivals for most of the crops reveal a positive relationship with production. But the rates of growth are neither uniform nor conform to growth rates of production. In the case of cotton, production increased by 6 per cent but arrivals increased by 6 per cent but arrivals increased by 10 per cent. The variation is more sharp in the cases where growth rates are negative. For example, production of gram declined by less than 7 per cent per annum but arrivals declined by more than 11.5 per cent per annum. Barring potato, production of which declined by less than 1 per cent annually but arrivals increased by 3 per cent there is positive relationship between production and market arrivals. The variations in market arrivals, measured through coefficients of variation, except the crops with negative growth rates, are not as sharp as fluctuations in production.

Except paddy and sugarcane marketable surplus of most of the crops in substantial quantity is disposed off outside the regulated markets. Net returns to farmers should be a major factor attracting the arrivals through a particular channel.

Assuming that the current growth rates will prevail, the likely arrivals of selected crops in the year 1999-2000 in the state work out as follows :

Wheat	:	56,524 thousand M. Tonnes
Paddy	:	39,227 thousand M. Tonnes
Serson & Toria	:	2,266 thousand M. Tonnes
Potato	:	1,739 thousand M. Tonnes
Cotton	:	8,147 thousand bales of 170 kg.

In other words, at the present level of growth of production and arrivals, the market arrivals of these crops in the regulated markets would be 67 per cent more than those received in the year 1993-94. The main problem of regulated markets is inadequacy of space to handle the current level of arrivals. How 67 per cent more arrivals will be handled by the end of the decade? should be a matter of concern.

Two possible alternatives can relieve the pressure on space in regulated markets :

- (1) Development of more sub-yards, purchase centres or creation of marketing facilities at the villages itself, and,
- (2) Strengthening the processing of agricultural products by giving more facilities to agro-processing units, so that a substantial portion of agro products is directly used by these units.

In conformation to the new industrial policy, the state government has initiated some steps such as almost removal of licence system to instal new unit, subsidies on capital investment on generating sets for captive power consumption, export promotion, area and product specific subsidies and concession in taxes, octroi, etc. and easy loan facilities to attract these units into the state. Agro-climatic conditions are suitable for agricultural production to meet the enhanced supply requirements and Delhi serves as a major demand pull factor for production.

#### 2.5.6 Emerging Problems and Input Supply

Still there are some problems related with the supply of inputs which can be broadly stated as follows.

**Insufficient inputs:** The agro-processing units of the area are generally associated with cotton ginning and pressing, paddy husking, dal and oil milling. Barring oil mills, almost all the firms point out short supply of raw materials. Many of the dal mills, making gram dal, are on the verge of closure because production and availability of gram is diminishing. Though production of cotton and paddy is on the increase, the firms are not able to operate beyond a limited period because of the nature of the product. During the busy season, there are problems of power supply. Demand-supply gap of raw materials is emerging. Most of the new units need relatively large quantity of raw material for operational economy. The firms with old technology, therefore, find it difficult to operate economically. The state policies also affect the performance. For example, they have to pay 3 per cent market fee which is 1 per cent to 1.5 per cent more in comparison to that in the adjoining states, and secondly, there is 4 per cent sales tax on the sale of unprocessed cotton seed and no sales tax if it is pressed into oil and cake.

#### 2.5.7 Policy implications and suggestions

Such type of anomalies need urgent attention/action. So far as farmers are concerned, they mostly depend upon the open market for supply of most of the inputs such as seed, pesticides, fertilizers, etc. The contribution of state govt./cooperative agencies in supplying the inputs is insignificant. Seed requirements are mostly met either from the retained quantity or from the open market. It would, therefore, be advisable that seed development agencies should involve private traders in selling of standardised seeds as in the case of fertilizers/pesticides.

Administrative steps should be taken to check the sale of spurious fertilizers, pesticides, etc. To avoid the fatal accidents in the application of pesticides, antidote should be made a part of the package and even subsidised by the State as most of the affected persons will be either farm labourers or marginal farmers. Storage difficulties are being faced by the procurement agencies, buyers and agents. The existing storage capacity is not matching with the increasing rate of production and secondly, the stock is not immediately distributed.

Reduction of standard weight of a bag to 50 Kg. as per ILO norms will be beneficial to the Hamal and to the jute industry.

Marketing of inputs and output should be made an integral part of extension work which so far has remained burdened with agronomical aspects.

.....



AGRO-ECONOMIC RESEARCH CENTRE, MADRAS

STUDY ON EMERGING PROBLEMS OF AGRICULTURAL MARKETING WITH  
SPECIAL FOCUS ON PROCESSING AND INPUT SUPPLY

2.6.1 Agriculture Marketing in Tamil Nadu

In Tamil Nadu, paddy is the main crop and groundnut is the next major crop. Together, they occupy more than 40 per cent of the gross cropped area. Also, these two crops are widely grown in Tamil Nadu. Hence these two crops (paddy and groundnut) were selected for the present study. These are being grown in the state for centuries and a marked increase in production has been recorded in these two crops. The present study was undertaken in the districts of Thanjavur and South Arcot which had witnessed a remarkable increase in production of paddy and groundnut in the relevant periods. Analysis of data revealed that marketed surplus of paddy and groundnut had increased over the years. The trading was in the hands of middlemen at the village level and most of them acted as commission agents. Looking to this problem efforts were made to form cooperative marketing societies and regulated market committees thereby enable the farmers to get fair price for their produce.

2.6.2 Methodology and Coverage

The study was undertaken in Thanjavur and South Arcot districts of Tamil Nadu. Paddy and groundnut were considered for the study. The former was for paddy marketing and the latter for groundnut. From each district two blocks were selected and from each block one village was selected. From each village twenty five households were selected following the random sampling method. Thus 100 households were selected for the collection of primary data. Secondary data were also collected for the study.

2.6.3 Paddy in Tamil Nadu

Paddy is grown in Tamil Nadu in both kharif and rabi seasons. In Thanjavur, paddy is grown in three seasons, namely kuruvai, samba and thaladi. In Tamil Nadu the area under paddy was 26.90 lakh hectares in the year 1971-72 and it decreased to 18.56 lakh hectares in the year 1990-91.

However, the production was 50.07 LMT (lakh metric tonnes) in the year 1970-71 and increased to 57.82 lakh metric tonnes.

#### 2.6.4 Thanjavur District

The production of rice in Thanjavur district registered remarkable increase during 1970 to 1990 (14.03 lakh tonnes in the year 1990-91 as against 10.67 lakh tonnes in the year 1970-71). But, in the case of area there was a decrease from 86-87 onwards. This may be due to shifting of area under paddy to other cash crops for better revenue, non-availability of irrigation water at the right time, etc. It is observed that increase in the production was mainly due to fact that the farmers had been bringing in more area under high yielding seeds and using higher doses of chemical fertilizers.

#### 2.6.5 Groundnut in Tamil Nadu

The area under groundnut in Tamil Nadu in the year 1971-72 was 11.19 lakh hectares and decreased to 9.63 lakh hectares in the year 1990-91. The production of groundnut in the state has varied considerably over the years (1970-71 to 1990-91). It was 9.89 lakh tonnes in the year 1971-72 which increased to 11.79 lakh tonnes. In the case of total oil seeds the area was constant since 1970-71 (11.27 lakh hectares in 1970-71 to 11.48 lakh hectares in 1990-91) but the production increased considerably (from 10.36 LMT in 1970-71 to 11.41 LMT in 1990-91).

#### 2.6.6 South Arcot District

The area under groundnut registered a marginal increase from 1,65,262 hectares in 1970-71 to 1,73,652 hectares in the year 1973-74. It is observed that the area under groundnut is more or less constant. The production of groundnut in South Arcot district in the year 70-71 was 1,63,890 tonnes which increased to 2,00,160 tonnes in the year 1990-91.

The increase in production over the year was mainly due to the improvement in cultivation technology, usage of high yielding varieties and more usage of chemical fertiliser and pesticides.

#### 2.6.7 Market Arrivals

The market arrivals of rice were highest during the year 1975-76 (51.9 per cent of the total production of 52.02 LM tonnes) and least

was during the year 1979-80 (33.6 per cent of the total production of 58.00 lakh metric tonnes). The proportion of produce of rice going to the assembling market centres has raised from 34.3 per cent in the year 1971-72 to 51.9 per cent in the year 1975-76. Thus, it was observed that the actual sales by producers would be much larger than the sales recorded at the wholesale assembly market centres.

The quarterly arrivals of rice in the selected wholesale assembling market centres has undergone changes over the years. The first two quarters (i.e.) October to December and January to March (post harvest period of rice) accounted for the bulk of the sales in the early years (1975-76 to 1979-80) and the arrivals of the commodity in the market were heaviest in the second quarter. However, the share in the total arrivals declined over the years (i.e. 1980-81 to 83-84).

#### 2.6.8 Projection of Estimates of Production

The state is likely to experience a continuous surplus production of rice, groundnut and total edible oilseeds during the nineties.

<u>Year</u>	<u>Rice (Tonnes)</u>	<u>Groundnut (Tonnes)</u>	<u>Total Edible Oilseeds (Tonnes)</u>
1996-97	7,200.0	1,634.2	1,718.9
1997-98	7,457.2	1,714.8	1,804.3
1998-99	7,727.9	1,799.9	1,894.5
1999-2000	8,012.3	1,889.5	1,989.5
2001-2002	8,310.3	1,983.7	2,089.3

If the present growth rate is maintained, the state will achieve self sufficiency at the end of nineties.

#### 2.6.9 The Distribution

In Tamil Nadu distribution (marketing) was being done by 1. Government Sector, 2. Private Sector. In Tamil Nadu the public distribution system plays an important role. The state is covered either by statutory or modified rationing of rice which is the major food grain. However, it was observed that the total quantity of rice for 'Public Distribution System' has gradually declined over the years.

#### 2.6.10 Marketing Channels

The most important channels of marketing of paddy and rice in the private sector is rice mills. The operations of parboiling, drying, etc. are performed by the rice mills and thus the output is sold

to wholesalers belonging to different markets in the state. The Government procures a part of the output from the rice mills as levy at a stipulated price and the rest is permitted to be sold to traders of different markets within the state at open market price.

#### 2.6.11 Processing Units

Processing units play a prominent role in Tamil Nadu specially in South Arcot and Thanjavur districts. In South Arcot district there were 107 decorticators, 132 rice mills, 115 rotaries and 6 powerghani's, whereas, in Thanjavur district, there were 150 rice mills, 16 decorticators, 32 rotaries and 10 country chekkus.

#### 2.6.12 Regulated Markets

It was observed that in marketing regulated markets play an important role by giving a fair price for the produce of the farmers. The South Arcot market committee was started in the year 1939 to regulate the purchase with a view to get competitive prices. At present 28 regulated markets are functioning under the South Arcot Market Committee. In South Arcot district regulated market was established in the year 1940. The number of rice mills in the State increased from 15,685 in 1980 to 18,205 in 1990. The number decreased to 15,255 in the year 1986. Otherwise the increase was tremendous. Thus rice mills help traders in processing their produce. It is observed that trading and marketing paddy and rice involves three major functions.

- (a) Collection of marketed surplus from individual paddy growers.
- (b) Cleaning, parboiling and milling of paddy to obtain rice.
- (c) Marketing of rice and its by products used as cattle feed.

Traditionally the rice mills took up all these three functions directly or indirectly. Nearly total marketed surplus was handled through this single channel i.e. rice mills. A small portion of paddy was home processed and marketed.

#### 2.6.13 Selected Farms

The farm level survey shows that the average size of family in Thanjavur district is bigger than that of South Arcot district. The proportion of heads receiving higher education was higher in South Arcot district than Thanjavur district. The distribution of

ownership holdings by size group, of holdings in both the districts reveals that 50 per cent of households belonged to the categories of small and marginal holdings and they possessed one fourth of the operated area. The average size of holding was 4.24 hect. in South Arcot district and 3.17 hect. in Thanjavur district. The net area irrigated was 211.18 in South Arcot district as against 158.42 hect. in Thanjavur district. The total operated area and average size of holding was 211.18 hect. and 4.24 hect. whereas, it was 158.41 hect. and 3.11 hect. in Thanjavur district. The total cropped area was 351.89 hect. in South Arcot district and the total cropped area was 236.85 hect. in Thanjavur district. In that 93.85 per cent of area was under paddy in Thanjavur district.

#### 2.6.14 Marketed Surplus

The proportion of marketable surplus to total marketable surplus was quite higher in season I than season II in Thanjavur villages. This indicates that paddy was no longer considered as a subsistence crop but was taken as a commercial crop. Market arrivals of groundnut increased during the recent period. In South Arcot district 77.50 per cent of total production groundnut in South Arcot villages was sold by different size group of holdings.

.....

EMERGING PROBLEMS OF AGRICULTURAL MARKETING IN KARNATAKA

2.7.1 Crop Economy of Karnataka

Agricultural sector in Karnataka is gradually undergoing a change towards commercialisation. The growth rates of the agricultural sector in the post green revolution phase were quite impressive but suffered slight set back during eighties. The stagnation of agricultural production during this phase has caused deep concern among administrators and academicians. Among the various causes discussed about stagnation, the remunerative prices and marketing seem to be important.

The projection of crop output was attempted by the expert group on "Perspective Plan of Karnataka". The demand for food-grains is placed at 10.62 million tonnes by the year 2001. The supply scenario would match the demand in all the crop sectors except pulses. Keeping in view the projected demand, arrivals in the market and carrying capacity of markets, it is estimated that about 100 more markets would be required in the State. The shortfall in the infrastructure is noted mainly in Bangalore (Rural), Dharwad, Raichur, Uttar Kannada and Dakshin Kannada districts.

2.7.2 Marketing of Spices

Karnataka is one of the major spices producing states in the country. The share of the state in the area under total spices is quite significant, but its output share does not match the share of area due to low productivity. Among the spices, Karnataka's share in cardamom (23.25 per cent) and arecanut (31.12 per cent) is quite significant.

At the country level the growth rates in area, production and productivity of cardamom picked up only after 1978-79. The production increased mainly due to the expansion in area under cardamom than productivity of the crop. In Karnataka, the productivities of cardamom and arecanut stayed at the same level since 1980-81. Whatever growth in the production of cardamom achieved in Karnataka, was mainly due to the area increase.

The stagnancy in the productivity of cardamom in the State is quite disturbing and this is possibly due to four factors. Firstly, the method of collection of statistics for spices has not been as efficient as for the other crops. The statistics reported

by Directorate of Economics and Statistics does not tally with that reported by Spices Board. Secondly, the price incentive for the crop is quite low for the growers because of the presence of middlemen. Thirdly, the choicest new varieties of the crop are being introduced by the Spices Board only recently under Cardamom Development Programme and Lastly, the new pests and diseases are affecting the crop and programmes are being initiated to tackle that.

### 2.7.3 Agricultural Marketing Administration

Agricultural marketing in Karnataka involves two administrative structure, namely, Department of Marketing (DM) and Agricultural Marketing Board (AMB). The first one is vested with the responsibility of implementation of the Karnataka State Marketing Act, whereas, the second is an autonomous body created for developmental activities in the marketing sector. AMB has elected representatives with a Managing Director from the State Administration. The DM is fully under the State control. One major problem of the structure of marketing is the horizontal integration of these two structures. Secondly, the training of the lower level staff and integration at Agricultural Produce Marketing Committee level, are also important bottlenecks.

Spices Board is an autonomous body of Government of India working under the Spices Board act of 1986. It is vested with several responsibilities relating to spices development in the country. Cardamom is one of the important component of spices and hence the board has specific Cardamom Development Programme covering all the aspects of the crop. The marketing aspect of cardamom under Spices Board however, needs to be closely scrutinised on two counts. First, the licensing of auctioneers hinders the access of small farmers to remunerative prices. They are compelled to sell these to local vendors or middlemen who have a clear access to the auctioneers. Second is that the dates of auction are fixed beforehand and this also leads to the same problem as above.

### 2.7.4 Marketing and Export of Cardamom

Cardamom marketing is governed by the Spices Board of the Government of India. According to the Spices Board Act of 1986, 52 spices come under the purview of its activities. Of these 52, eleven spices are treated as important for export and from among

these cardamom development and marketing is one of the major activities of the board. In fact, among the three statutory committees, one committee specifically deals with 'Research and Development of Cardamom'. The formulation and implementation of the project covers small and large cardamoms separately. Among the various schemes for cardamom development taken up by the board, the important are :

(i) Departmental Nursery Scheme, (ii) Certified Nursery Scheme, (iii) Scheme for Polybag Nurseries, (iv) Cardamom Replanting Scheme, (v) Scheme for Integrated Development and Marketing of Karnataka Cardamom under Western Ghat Development Programme for small and marginal growers in Karnataka State, (vi) Seed farms, (vii) Cardamom Development Programme for Tribals, (viii) Extension Advisory Scheme and (ix) Construction of Curing houses.

Several activities are taken under these schemes. The Board also concentrates on the agronomical soil treatment, plant pathology and other technical aspects of cardamom.

Marketing department of the spices board is engaged in identifying market segments based on product, consumer needs, competitor's effectiveness and regional spread. Cardamom Licensing and Marketing Rules (1987), were introduced with a view to streamline the system of marketing in general and bringing about control over auctioneers, dealers and exporters. Among other market promotion functions the spices Board issues four types of licences/certificates namely: (i) Cardamom Dealer Licence, (ii) Cardamom Auctioneer Licence, (iii) Certificate of Registration as Exporter and (iv) Registration-Cum-Membership Certificates to Exporters. The market intelligence officers have been posted in various important marketing centres to collect information and process it periodically. The licensed auctioneers conduct weekly auctions during the harvesting seasons in the production tracts/assembling centres/<sup>on</sup> particular days as approved by the Board and as per the conditions/directions issued. In Karnataka, cardamom auctions are conducted at Sirsi, Madikari, Sakleshpur, Siddapur, Kansur, and Yadalli. It is easy to infer from the above that the fixation of specific day for a auction and licensing of auctioneers would restrict the access of small growers to the market. This would finally result in increased leverage for middlemen in the process of marketing.



Export performance of spices during 1991-92 has been outstanding in terms of both quantity and value. The export earning through spices is about Rs,362 crores during 1991-92 for more than 130 thousand metric tonnes of spices exported.

There are wide fluctuations in the production and exports of cardamom. The fluctuations in the cardamom exports and that of total spices were almost on similar lines till 1984-85. But after that there was a clear break in the export of total spices and the share of cardamom in the export of total spices started declining. In the first decade (1966-67 to 1976-77), the exports were almost constant and picked up to reach a peak during 1978-79. Further, the exports declined till 1983-84 and with the lone exception of 1984-85 the trend is not very encouraging. Does this indicate that the Spices Board could not influence the export scenario or the board could avert a further deterioration? The answer to the question would require analysis of international marketing trends especially of those countries which compete with Indian Cardamom in the World Market.

#### 2.7.5 Selected farms

Two districts of Kodagu and Chikmagalur being the two largest producing districts in terms of acreage under cardamom and quantity produced were selected. In each district one block each, namely, Mercara block in Kodagu and Mudigere in Chikmagalur were selected. From each selected block 50 farmers were selected. Thus, in all 100 farmers were selected for the survey.

The cardamom growers of Kodagu allocate larger share of cultivated area under cardamom than those in Chikmagalur. The net return out of cardamom area was highest in Kodagu and chikmagalur as against paddy or coffee. But the net returns were higher in Chikmagalur. The prices received by the farmers have direct relationship with the size of holding.

#### 2.7.6 Marketed Surplus

Marketed surplus per hectare has an expected direct relationship with the size of holding. This means that marketed surplus is available with the small farmers. The farmers prefer to sell cardamom outside the village, but 14 per cent of Kodagu and 20 per cent of Chikmagalur farmers prefer to sell their cardamom out put in the

village itself. The local markets are usually dominated by petty vendors (called Kaka). But most of them do not travel more than 20 kms. for marketing the produce. Largest proportion of the produce (about 90 per cent) is sold either to a local petty vendor or to local merchant.

#### 2.7.7 Marketing Channels

There are two dominant channels of marketing. First one begins with the local petty vendor and reaches through him to the town merchant. The town merchant participates in the auction as a seller. The second channel begins with small merchant and again leads to the town merchant. The second channel is more remunerative.

Most of the farmers preferred government controlled marketing board to handle the entire marketing with increased infrastructure. There is a total absence of collective processing of cardamom in the region. The lower level of productivity has caused this. There is inadequate dissemination of market information which causes fall in net returns.

#### 2.7.8 Problems of Marketing at Micro Level

The major problems of marketing are following.

Firstly : Given the small size of holding and crop specializations in the region, the marketed surplus generated is not substantial in quantity. Both the commercial crops under consideration are high value, labour intensive crops and since the quantum of marketed surplus is not high the farmers tend to sell their produce at local market irrespective of the lower price. Moreover, for marketing of coffee the operations of Coffee Board are quite efficient and hence, in comparative sense cardamom receives lower importance.

Secondly : The periodicity of production does not augur very well with the periodicity of price fluctuations. The cash needs of the producers compel them to sell the produce to local traders without even a chance for bargaining. Hence, it was not surprising that most of the farmers sold their production in the local market (to the petty shop owner called Kaka).

Thirdly : All this takes place because of the inadequate dissemination of the market information upto the farm level. Even if such

EXISTING PROBLEMS AND EMERGING NEEDS OF HORTICULTURAL MARKETING  
IN HIMACHAL PRADESH

2.8.1 Introduction

Horticulture is an economic necessity in the hilly areas. The unique agro-climatic conditions of hills provide an opportunity to augment the meagre income from the cereals cultivation by partially or fully switching over to horticulture including fruits vegetables floriculture, etc. Because of this the cultivation of cash crops is becoming popular in various agro-climatic zones of the state. The cultivation of apples, off-season vegetables, potatoes, etc. is becoming more and more popular in different zones. The increase in area and production of such crops is giving rise to many problems such as packing, grading transportation, storage, processing, etc. and has affected the net return of the growers significantly. All these crops are highly perishable and require immediate disposal especially in the absence of cold storage in the producing areas. This calls for elaborate arrangements for marketing of these perishables. It is with this background this study was conducted to highlight the existing problems which the farmers are facing and also more importantly the needs which are likely to emerge in near future. If such needs are not felt today and appropriate planning not done, it may become very difficult in future to tackle such problems as production is bound to increase further in future.

2.8.2 Growth in Area and Production

A) Fruit Crops

Himachal Pradesh has attained a very impressive progress in the production of fruits in general and apples in particular. The area under total fruits has registered an increase of about 6.53 per cent per annum, whereas, the total production has increased by about 6.15 per cent during the same period. The area under apples in the State is about 40 per cent while its contribution in total production is about 80 per cent meaning thereby that apple is the most important fruit of the state. About 40 per cent of the area under apples is in Shimla district, followed by Kullu (20 per cent). These two districts together produce 90 per cent of the total production of the State. The area under apple has registered a growth rate of 3.68 per cent per annum

while production increased at 6.21 per cent per annum.

The state has witnessed a growth of about 8 per cent in area of plum, peach and apricot, whereas, the production has shown a growth rate of about 4 per cent meaning that the productivity in the case of stone fruits is not increasing with the pace of area. The maximum area under other temperate fruits is in Solan followed by Mandi and Kangra. The area under citrus is about 30,000 hectares and has registered an increase of about 11.70 per cent between 1975-76 to 1990-91. However, the production has decreased by 3 per cent per annum. The important citrus growing areas are Kangra, Mandi, Bilaspur, Solan and Sirmour. In the lower areas of Himachal Pradesh, mango, litchi, guava, etc. are being grown on about 8 per cent to the total area under fruits of the state. Kangra alone occupies 50 per cent of the area, whereas, the production is about 60 per cent. The area and production have witnessed a change of about 10 and 3 per cent per annum respectively during the same period. The contribution of nuts and dry fruits to the total fruit production is negligible. During the last two decades more emphasis was given on the profitability of fruits. This may be due to higher profitability of fruit orchards and due to this the growers of the State are gradually shifting their area towards this enterprise.

Potato is an important cash crop of the state as the tubers of potato are free from viruses and are used as seed in plain area of the country. Potato is grown in all the districts of the state, but the maximum area is under Shimla followed by Mandi, Lahaul & Spiti and Kullu districts. The area and production of potatoes have witnessed an increase of about 5 and 15 per cent per annum respectively during the study period. The potato grown in Shimla, Lahaul & Spiti and pockets of Kullu and Sirmour is generally termed as seed potato.

#### B. Vegetable Crops

The Himachal state is known for the production of off-season vegetables. The important vegetables grown in the state are tomato, cauliflower, cabbage, peas and beans, hill capsicum, etc. Area and production of these crops witnessed an increase of 1.44 and 5.86 per cent per annum respectively during the study period.

### Exports of Fruits and Vegetables from H.P.

#### 2.8.3 Trends in Fruit Export

The marketable surplus of fruits is more than 80 per cent and

it is exported outside the state. It is interesting to note that despite varying production, the proportion of fruits exported is almost constant for all the years under consideration. This shows that no appreciable change in utilization of Himachal fruits was observed. The stagnant utilization might be due to lack of quick transportation facilities available from producers point to consumers point.

#### 2.8.4 Export of Potato

Himachal Potatoes being virus free are utilized in plains for seed purpose. This brings high returns to farmers as compared to the potato sold for table purposes. Therefore, the seed potato is exported to various consuming states of the country by road and rail. The total exports by rail and road are about 64 and 36 per cent respectively. It has also been estimated that about 60 per cent of the total produce is exported out of the state and 40 per cent is consumed within the state for retention as seed, wages in kind etc.

#### 2.8.5 Export of Vegetables

Out of 125 thousand tonnes of vegetables excluding potatoes i.e. about 80 per cent of total produce goes out of the state to distant markets of the country where it fetches very high prices. This has stimulated the farmers of the state to bring more and more area under vegetables.

More than 80 per cent of Himachal fruits and vegetables are exported outside the state to distant markets. The most important mode of transportation is road transport as only few parts of Himachal Pradesh are linked with rails. Moreover, the fruits and vegetables being highly perishable in nature need quick transportation and therefore, the road transport is the only alternative left with the producers of the state.

#### 2.8.6 Existing Problem

Drawing from the experience of Himachal Pradesh, crucial problems that deserve to be looked into with urgency are :-

- Horticulture Statistics,
- Picking, assembling and maintenance of freshness.
- Standardization and grading
- Packing

- Handling and transportation
- Wholesale marketing
- Pricing
- Utilization of culled/product diversification.
- Regulation of supply and storage
- Market information
- Price Support System
- State Policy

#### 2.8.7 Horticulture Statistics

The data available on Horticulture production is not very reliable, therefore, it becomes difficult to prepare a plan and hence all efforts be made in this direction do not yield the desired results. Thus in the absence of correct estimates regarding area, production, productivity, exports etc. it is difficult to plan a sound policy for this industry.

#### 2.8.8 Picking, Assembling and Maintenance of Freshness

The planners of the state have so far emphasized more on the development or production of the fruits and vegetables, but there has been a little emphasis on the post-harvest technology of the fruits and vegetables. If the damages/losses are checked during the post-harvest period, the farmers/grower's returns will increase many time.

#### 2.8.9 Standardization and Grading

The major problems were shortage of skilled labour, higher wages, non-availability of labour and cumbersome formalities. The growers complained that the grading houses are located far off from their orchards and it is difficult to bring the fruits there, Moreover, they have doubts regarding mixing of their lot with other's.

#### 2.8.10 Packing

The main problems reported by the orchardists are shortage of wooden boxes, high prices of boxes, packages not available in time, on credit and at desired places. The shortages of other packing material such as waste paper, nails etc. prevailed. The requirement in 1996 was 412.8 thousand boxes whereas the supply was only 138.6 thousand boxes (30 per cent).

#### 2.8.11 Handling and Transportation

Transportation is the key link in the marketing of agricultural

produce connecting geographically specialized farmers and urbanized consumer population located all over the country. Thus transportation adds 'place utility' to goods and commodities. In hills where fruits are produced in far flung areas located in difficult terrain and at high altitudes, the role of transportation is much more important. In fact the transportation charges are the second largest component in the marketing of Himachal fruits. On an average, the orchardists spent Rs.15.65, 5.97, 6.60, 6.15 per box in handling and transporting of apples, plums, peach and apricot up to Delhi market. Of this nearly 30 per cent is the cost of carrying the box from orchards to the nearest road head. Whereas about Rs.32 to 42 per quintal is incurred on carrying vegetable to the terminal markets.

#### 2.8.12 Wholesale Markets

At least three-fourths of the fruits and vegetables produced in Himachal Pradesh are received in Delhi market and most of it is further redistributed to other markets of the country. Thus Delhi market serves as a clearing house or re-distribution centre for Himachal fruits and vegetables in general and apples in particular.

#### 2.8.13 Pricing

In hill areas there are general complaints that price mechanism particularly of fruits and vegetables are below satisfaction. The prices are at the mercy of traders who manipulate for their own benefits and this leads to wide fluctuation which ultimately affect both producers and consumers. A negative relationship was observed between the supply and pricing indicating that the supply law was operating in the market, moreover, the excessive seasonal price fluctuation indicates inadequate provision of needed storage, credit and risk-bearing services and that those provided are available only at a high cost.

#### 2.8.14 Utilization of Culled Fruits

The Utilization of culled fruits indicated that about 52 per cent of culled are sold to processors. However, producers faced many problems in this respect. They complained that prices offered are very low and are not announced in time etc.

#### 2.8.15 Regulation of Supply and Storage

The production of fruits and vegetables is seasonal and at a point of time. This creates glut in the markets and brings down the

prices. This calls for the regulation of supply. But keeping in view the perishable nature of these crops it can not be done without cold storages. There are no cold storages in producing areas and they again have to be at the mercy of traders for cold storages are located in the markets.

#### 2.8.16 Market Information

The farmers generally don't get reliable, timely and accurate market information. In its absence, the farmers can not take advantages of price differentials and can not plan for disposal of the produce.

#### 2.8.17 Emerging Needs

Himachal Pradesh has made all out efforts and as a result has achieved outstanding results in the field of horticultural development. Similarly increased area and production of fruits in the state has given rise to various problems especially in the area of post harvest management of the produce. Unlike foodgrains and other field crops marketable surplus in fruits and vegetables is comparatively more. It is almost 98 to 99 per cent including low grade produce sold for processing.

#### 2.8.18 Future Projections :

By the end of eighth plan production has been targeted at 4,82,405 M.T. for tomatoes, beans and cabbages. With the increase in area under irrigation more and more area is being diverted towards vegetable crops in the state. Due to higher profitability farmers are shifting some areas towards high value crops.

By adopting new varieties and regulating the seed potato production policy it has been anticipated to increase potato production to 1,60,000 M.T. by 1995-96. The increased production in future has to be matched with the infrastructure facilities such as packing boxes, transport requirements etc.

#### 2.8.19 Suggestions for Improvements

In order to over come the above problems and keeping in view the fact that production is going to increase in future, as worked out in projections, the following strategy has been suggested.



(a) Data Base

It is suggested that different agencies collecting horticultural statistics sit together and make some reconciliation.

(b) Care in Handling

As women are actively engaged in picking and assembling etc., it is recommended that they be given training in this respect so that losses are minimized.

(c) Strengthening of Grading and Packing House

The existing grading and packing houses be strengthened so that farmers regain faith in them. This will solve the problems in grading to a large extent.

(d) Packing

The corrugated fibre boxes cartons be popularized further. New cartons which can withstand large pressure and are moisture resistant should be developed. The price factor should also be taken care of.

(e) Transportation

The inefficiencies in local transport can be taken care of by providing gravitational rope ways and small road linkage orchards to road heads. The future requirements of trucks for road transport for apples and potatoes has been worked out. Hence, planning can be done keeping in view these projections. Certain roads have also been identified which are of strategic importance for transportation for apples and potatoes. These roads need special care for smooth flow of these commodities to the markets. Due to plying a large number of trucks during harvesting season, shortage of diesel is felt. Thus, Govt. should make arrangements for all such contingencies. The trucks carrying fruits and vegetables should also be given priority at barriers so that time is saved and quality is not deteriorated. All such arrangements should be coordinated from different control rooms established for this purpose only.

As potatoes are transported mainly by railways, arrangements for wagons should be made before hand, the freight structure should be rationalized and more broad gauge points be set up in the state.

(f) Processing

Existing product <sup>range</sup> / be diversified and plants for manufacturing of alcoholic beverages etc. be established in the State.

The industries utilizing by products should also be established.

(g) Others

The marketing cooperatives be strengthened and encouraged. More powers be vested in marketing committees so that mal practices of traders can be affectively checked. The warehouses and cold storages should be provided in the vicinity of producing areas.

.....