When comparing charges between PR and PT, the PT charge is lower than PR, in case Rs 20 of access cost from the station plus railway charge, at Jacobabad and Shikarpur in upper Sind.

Moreover, by adding Rs 10/ton than the railway charge, PT charge is lower than PR at Sukkur.

In Punjab, the PT rate is established by the contractor lower than PR. However, transportation of rice is controlled by the Food Department, therefore PT cannot compete fairly against NLC or PR as the governmental organization.

Table 3.38 Transportation Costs to Karachi

	City/Municikarity	PR*	NLC**	PT
Punjab	Sialkot	281	536	236 ****
	Sheikhupura	265	-	-
	Gujranwala	278	525	-
	Faisalabad	283	449	-
	Kamoke	274	-	-
	Muridke	271	-	-
	Lahore	268	491	214 ****
Upper Sind	Jacobabad	158	219	179 ***
	Larkana	137	185	
	Shikarpur	151	-	
	Sukkur	143	187	
Lower Sind	Badin	96		111 ***
	Thatta	-	38	
	Hyderabad	-	67	

Note:

* Rate by PR
** Rs 0.38/ton x diseance (km)
*** Established by RECP
**** Data obtained by interviewing

3.4.3 Grading and inspection

(1) Paddy

Paddy should be inspected by both sellers and buyers when it is sold in the market or to millers and price is determined.

Presently, however, quality is assessed only by buyers, without the presence of producers who are acutally sellers.

This means that support prices determined by the government are ignored. This is especially true in the case of IR-6 variety.

On the other hand, when paddy is purchased by the rice mills operated or supervised namely, government the two millers belonging to PNP, the six millers belonging to RECP and several rice millers contracted with PASSCO, paddy is inspected based on paddy inspection standards set up by the government (See Table 3.29). Even in this case, however, sample divider, moisture meter and other inspection equipment are not used. Paddy is graded only by a visual inspection.

(2) Milled rice

1) Ordinarily distributed milled rice

Milled rice to be distributed through ordinary routes is milled by sheller-type mills or modern-type mills except for milled rice, which is milled by village millers (called "chakkies") for producers home consumption. Although the quality of rice to be sold to the market is assessed, specific inspection standards, inspection methods and equipment are not used.

2) Milled rice purchased by the government

Rice to be bought by RECP through provincial governments for export purposes is inspected.

a) Inspection places

Inspection is made at places where rice is bought. For example, for railroad transportation or truck transportation, rice is inspected at Purchase Centers. There are 205 Purchase Centers in Punjab Province and 12 in Sind Province. Milled rice transported by truck from Northern Sind Province to Karachi is inspected at Pipri or Dandhi, the storage places at ports owned by RECP.

b) Inspectors

Milled rice is inspected by the representative of RECP, the analyzer from the District Food controller and grain inspector from the center in the presence of the seller of milled rice or his representative and one or two representatives of the Rice Dealers Association appointed by the Purchase Center.

c) Inspection items

Quality, packing and weight of milled rice are inspected.

d) Sampling

The samples are taken at random by the above mentioned inspector, from the lot of rice which has been proposed for sale by the seller, before the lot of rice is loaded to the wagon or trucks, in the presence of the above mentioned party.

Four samples are taken out of bags of the lot at rate of 5%, and the weight of one sample is 1.5 kg.

All sample bags are sealed.

Among these four samples, one is for the analysis, another for seller, a third for RECP and the fourth is sent to the Regional Grain Analysis Center of Punjab Province (Regional office in Sind Province) after the lot of rice is confirmed to be acceptable, the analyzed sample in bag shall be leaded to the wagon or truck which the lot of milled rice is loaded, with the tag indicated the variety, schedule year, the lot number, purchase center name and seller's name.

e) Quality analysis

A sample of 1.5 kg is reduced to 10 grams according to the four-division method. (Problems remain in the final-stage reduction.)

Inspection items shown in Tables 3.30 to 3.34 are analyzed.

f) The quality standards of paddy

There are three kinds of paddy: IR-6 produced in Punjab Province, Basmati produced in Punjab Province and IR-6 produced in Sind Province and Baluchistan Province. For each class, inspection is made regarding moisture contents, other varieties, red kernel, immatured kernel, foreign materials (such as sand and mud balls), and heat damaged kernels.

Grade of inspection are "pass" or "fail". Unlike the International Rice Inspection Standards, however, the maximum or the minimum limit of items to be inspected and passed is indicated, and there is a rejection limit. In case of quality between "pass" and the rejection limit, a price reduction rate is shown for grade of inspected item. This means that inspection grading can be classified into "pass" and "fail" and it can be also classified into first class (reaching the passing level), second class ("pass" with price reduction rate) and "fail".

g) The quality standards of milled rice

There are five classes: Punjab Province Basmati, par boiled Basmati, Punjab IR-6/KS282 (15 to 20% grained), Sind Province Special IRRI-6, par boiled class of Sind Province Special IRRI-6, Dr-82, Dr-83 (15 - 20%), Sind Province IR-6 and special quality Basmati. Certain items are common to each class. These are broken kernels, red streaked kernels, under-milled kernels, chalky kernels, damaged kernels, discolored kernels, foreign materials containing, paddy, other varieties and moisture contents.

h) Weight measurement

Bags equivalent to ten percent of 240 bags of the lot which passed the quality inspection are randomly sampled. Then, the weight of these bags is measured to obtain the average, which is multiplied by 10, the

Table 3.29 Specification of Paddy

1. Apponded below are the specifications of paddy to be purchased during 1984-85 by us in Punjab. Lots not found within the specifications may be rejection limit and touches be imposed if falling within tolerance limit.

2. All concerned are directed implement and adhere to these specifications strictly.

Punjab

Serial No.	Item of Refrections	Tolerance limits	Scale of deductions	Limit of rejection
IRRI-6				
1	Moisture	Nov. 18%	At full value proportionate to percentage of moisture above 19%	Above 24%
		Dec. through March 16%	- do - 17%	
2	Admixture of other varieties	3%	At 1/2 value above 3%	
3	Choba	3%	At full value above 3%	Above 8%
4	Shrivelled Grain	3%	- do - 3%	" 4%
5	Dirt (Sand and Mudball etc.)	2%	- do - 2%	
6	Inert matter)			
7	Head Damaged Grain	1%	- do - 1%	Above 2%
BASMATI				
1	Moisture	Nov. 16%	At full value proportionate to percentage of moisture above 17%	Above 19%
		Dec. 14%	- do - 15%	" 17%
2	Admixture a) Superior varieties (Permal, Mushkin, Hansraj & Sathi)	3%	At 1/2 value above 3%	" 5%
	b) Infenor varieties (Other than Superior varieties including IRRI-6)	2%	At full value above 3%	" 4%
3	Choba (Red Rice)	1%	At full value above 1%	Above 3%
4	Shrivelled Grain	1%	- do - 1%	" 3%
5	Dirt (Sand & mudballs etc.)	1%	- do - 1%	" 3%
6	Inert matter	1%	- do - 1%	" 3%
7	Heat damaged	0.5%	- do - 0.5%	" 0.5%

Paddy Specifications of IRRI-6

Sind/Baluchistan

Serial No.	Item of Refrections	Tolerance limits	Scale of deductions	Limit of rejection
1	Moisture	16%	At full value above	18%
2	Admixture	3%	At 1/2 value above 3%	5%
3	Red Rice	2%	At full value above	4%
4	Damaged/Shrivelled	2%	- do -	5%
5	Dirt & Immature Matter	2%	- do -	4%
6	Heat damaged grain	1%	- do -	2%

Table 3.30 Procurement Specification of Punjab Rice 84-85

Crop Basmati Parboiled (Sela) Basmati

S. No.	ITEMS OF REFRACTIONS	TOLERANCE LIMIT	SCALE OF DEDUCTION	REJECTION LIMIT	REMARKS
1.	Full healthy grains.	71%			
	Admixture of other varieties:				
	a) Permal, Mushkin, Hansraj (Bara) and Sathi, PK-177-178 and PK-196.	5%	Over 5% to 10% at 2/3 value. Over 10% at 3/4 value.	Over 15%	Mutual to extent of inferior varieties being less then tolerance limit.
	b) Irri-6, KS-282, Irri-8, Jhona and Irri-9.	5%	Nil	Over 5%	
2.	**Broken Grains**				
	a) Over 1/4 to 3/4 of Basmati.	10%	Over 10% at 1/2 value.	All Brokens	Mutual provided.
	b) of other varieties.	1.5%	Over 1.5% at 3/4 value.	Over 15%	Items 2(c) does not exceed 1% and total of item 2(b) and 2(c) does not exceed 2.5% and total of all the three brokens does not exceed 12.5%.
	c) 1/4 and below.	1%	Over 1% to 2% at 3/4 value. Over 2% at full value.		
3.	Red and under milled grains	1%	Over 1% at full value.	Over 2%	
4.	Chalky grains.	4%	Nil	Over 4%	
5.	Damaged, Discoloured, Shreivelled grains.	1%	Over 1% at full value.	Over 1.5%	
6.	Foreign matter including Rice Powder (Nakko).	0.5%	Over 0.5% at full value.	Over 1%	
7.	Paddy (in 500 grams).	0.2%	Over 0.2% at full value.	Over 0.5%	

i) Broken grains above 3/4 will count as full grains.

ii) Raw rice shall have normal colour of Basmati i.e. white to creamy.

iii) Sela Basmati (Parboiled) shall have light yellow to medium yellow colour.

iv) Moisture content shall not exceed 14%.

v) During analysis the brokens of red and under milled, chalky, white bellied damaged and discoloured and shrivelled grains shall be reckoned as broken grains.

Table 3.31 Procurement Specification of IRRI-6/KS-282 & WHITE (15% to 20%) of Punjab for 84-85 Crop

S. No.	ITEMS OF REFRACTIONS	TOLERANCE LIMIT %	REJECTION LIMIT %	SCALE OF DEDUCTION	
1.	BROKEN GRAINS.	15%	Over 20%.		
	a) Below 3/4 to 1/4	14%	Over 18%.	Over 14% at 1/2 vale	Mutual provided broken grains below 1/4 do not exceed the tolerance limit of 1% and all brokens do not exceed 15%.
	b) Below 1/4	1%	Over 2%.	Over 1% at 3/4 value.	
2.	RED AND UNDER-MILLED GRAINS.	2%	Over 4%.	Over 2% at 1/2 value.	
3.	DAMAGED, DISCOLOURED & SHRIVELLED GRAINS.	1.5%	Over 3%.	Over 1.5% at full value.	
4.	CHALKY GRAINS.	3%	Over 6%.	Over 3% to 6% at 1/4 value.	
5.	FOREIGN MATTER & PADDY.	0.5%	Over 1%.	Over 0.5% to 1% at 1/2 value.	
6.	OTHER VARIETIES.	3%	Over 5%.	Over 3% at 1/3 value.	

Note:—

1. During analysis the brokens of red, under-milled, chalky, white bellied, damaged and discoloured and shivelled grains shall be reckoned as broken grains.
2. Moisture contents shall not exceed 14%.
3. The inherent white spot in grains of this variety will not make the grains chalky.
4. Rice should be well milled.

Table 3.32 Procurement Specification of IRRI-6 Special White, SELA & DR-82, DR-83, (15% to 20%) of Sind for 1984-85 Crop.

S. No.	ITEMS OF REFRACTIONS	TOLERANCE LIMIT %	REJECTION LIMIT %	SCALE OF DEDUCTION	
1.	BROKEN GRAINS.	15%	Over 20%.		
	a) Below 3/4 to 1/4.	14%	Over 18%.	Over 14% at 1/2 value.	Mutual provided broken grain below 1/4 do not exceed the tolerance limit of 1% and all brokens do not exceed 15%.
	b) Below 1/4.	1%	Over 2%.		
2.	RED & UNDER-MILLED GRAINS.	2%	Over 4%.	Over 2% at 1/2 value.	
3.	DAMAGED, DISCOLOURED & SHRIVELLED GRAINS.	1.5%	Over 3%.	Over 1.5% at full value.	
4.	CHALKY GRAINS.	3%	Over 6%.	Over 3% to 5% at 1/4 value. Over 5% at 1/2 value.	
5.	FOREIGN MATTER & PADDY.	0.5%	Over 1%.	Over 0.5% to 1% at 1/2 value.	
6.	OTHER VARIETIES.	3%	Over 5%.	Over 3% at 1/3 value.	

Note:—

1. During analysis the brokens of red, under-milled, chalky, white bellied, damaged and discoloured and shivelled grains shall be reckoned as broken grains.
2. Moisture contents shall not exceed 14%.
3. The inherent white spot in grains of this variety will not make the grains chalky.
4. Rice should be well milled.

Table 3.33 Procurement Specification of IRRI-6 (White) Rice 1984-85 Crop Sind.

S. No.	ITEMS OF REFRACTIONS	TOLERANCE LIMIT %	REJECTION LIMIT %	SCALE OF DEDUCTION
1.	Broken grains.	40%	40%	Mutual provided broken grains below ¼ do not exceed the
	a) Below 5/8 to 3/8.	25%	25%	tolerance limit of 15%.
	b) Below 3/8.	15%	15%	
2.	Red.	2%	3%	Over 2% at ½ value.
3.	Under-milled.	2%	8%	Over 2% to 4% at ¼ value. Over 4% at ½ value.
4.	Damaged, Discoloured, and Shrivelled Grains.	2%	3%	Over 2% at full value.
5.	Chalky Grains.	10%	20%	Over 10% to 15% at 1/4 value. Over 15% at ½ value.
6.	Foreign matter and Paddy.	0.5%	1%	Over 0.5% at full value.
7.	Other varieties.	5%	20%	Over 5% to 12% at ¼ value. Over 12% at ½ value.

Note:—

1. During analysis the brokens of damaged and discoloured grains shall be reckoned as broken grain and the broken of under-milled, chalky etc., should be adjusted against their items of refractions.
2. The inherent white spot in grain of this variety will not make the grain chalky. Also white tipped grains should count as other variety.
3. Moisture contents shall not exceed 14%.
4. Rice should be well milled.

Table 3.34 Specification of Special Quality Basmati

1.	Admixture of other varieties	
	i) Fine grain varieties	5.0%
	ii) Medium grain varieties	5.0%
2.	Broken Total (a & b)	7.0%
	a) 1/4 size to 1/2	4.0%
	b) Below 1/2 size to 1/4	3.0%
3.	Undermilled and Red Striped	2.0%
4.	Chalky grains	4.0%
5.	Foreign matter	0.2%
6.	Paddy	0.2%
7.	Damaged, Shreivelied and Yellow grains etc.	0.5%
8.	Moisture	14.0%

result being regarded as the total weight. Net weight is determined to be 95 kg and total gross weight is 96.05 kg.

3.4.4 Trading

(1) Trading paddy

1) Trading condition of paddy

Marketing paddy covers trading paddy between rice growers and rice millers. Rice growers consider the following three conditions when they sell their paddy, and decide the buyer.

a) Price of paddy

Growers try to sell their paddy for higher prices; however it is almost impossible due to the present paddy trade situation mentioned in 3.4.3.

b) Distance from farms to markets or rice millers

Paddy destinations is markets or rice millers, and transportation costs are growers expenses. Therefore, grower's select nearby destinations.

c) Living allowance

Generally rice growers are poor besides their cash become smaller at time of the rice harvest or by unexpected expenses. In this case, farmers can obtain loans from commission agents or rice millers. Loans are not only for cultivation costs but also for living expenses. To repay the loan, lenders reduce the payments for paddy; in addition, blance of payment are paid by installments throughout the year. This system has existed for a long time, and is convenient for rice growers. It also has leads to a stable supply of paddy for rice millers. However, this system leads to unfair trading practices and has an objective disadrantage for the rice grower.

2) Paddy trading channels

Rice producers sell their paddy under balance of the above three conditions. Paddy is traced through one of following 3 channels.

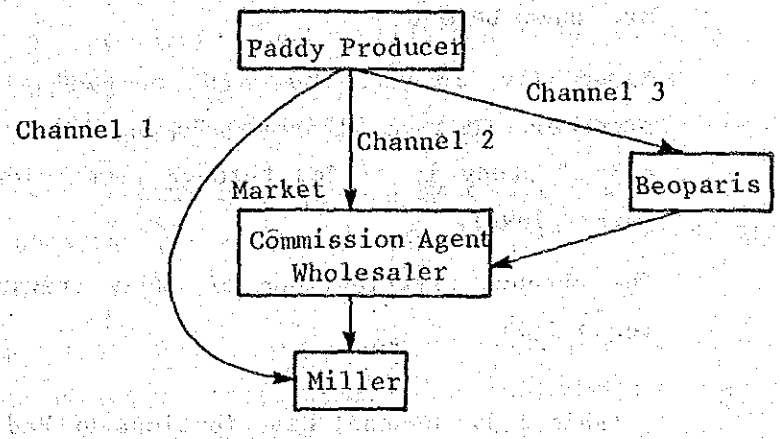


Fig. 3.10 Paddy Trading Chanels

Definition of paddy trading intermediaries are explained below.

- Paddy Producer : Paddy grower or landowner
- Beoparis : Small scale middle men in the village.
- Commission Agnet : Trades paddy between paddy producers and rice millers, charging a commission. They are at the Market level under license.
- Wholesalers : Buy and sell paddy at the market level under license
- Miller : Buying-paddy through commission agents or wholesaler, and sell milled rice to the rice market under license

The persons who are engaged in paddy trading such as commission agents, wholesaler and rice millers must acquire licenses for their businesses.

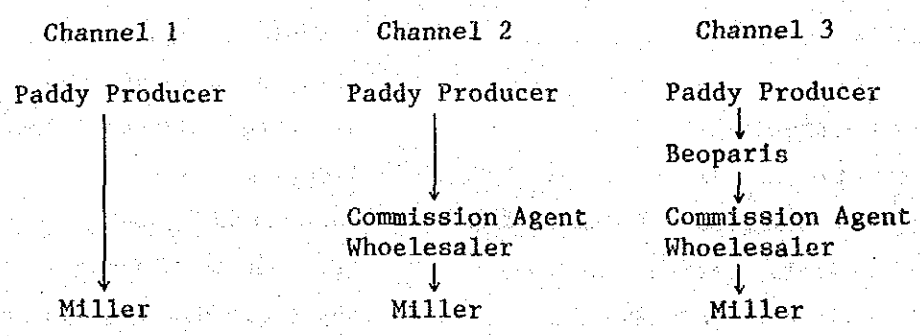
Licenses are issued for each level of dealer and miller. However, some intermediaries acquire several licenses independently. Therefore, paddy is not alway transported between trading levels. Distribution channels of paddy are shown below.

Especially, in Sind, 50 - 80% of paddy is sold by paddy producers to rice millers. Compared to this, in Punjab, 80% of paddy is traded through commission agents at the market level.

The channel distributions of paddy trading are shown in Table 3.35.

Table 3.35 Channel Distributions of Paddy Trading

Channel \ Province	Punjab	Sind
1	5 - 20	50 - 80
2	80	20 - 50
3	0 - 15	-



Regulated Markets, distributed 120, 87, 1 and 0 in Punjab, Sind, WWFP and Bulchistam provinces respectively in 1978 based on statistics of the Federal Bureau of Statistics. Products traded on the market are not only paddy and rice,

but also wheat maize, cotton, sugar, fruits, potatoes, beans, onions, tomatoes, vegetables, millet, etc. Regulated markets are controlled by the Food Department and managed by the market committee.

The market committee consists of representatives from producers, licensed rice dealers and the food department. The chief commissioner is the representative of producers. The commission agents mentioned above, mediate between rice producers and millers while trading After negotiations, commission agents pay producers for paddy. The market system is explained in section 3.5 in detail.

Market trading is proceeded by free auctions in punjab and Jacobabad, and by secret auctions in other districts in Sind.

Regulated markets are paved by concrete or brick and there are no other facilities to be established. Areas very from market to market.

3) Price of paddy

As mentioned in the previous sections, rice producers depend on intermediaries for paddy trading, such as commission agjents or miller. Therefore, prices of paddy are not always decided fairly.

In this section, the paddy price is analyzed, based on statistics from the Directrate of Agriculture (Economics & Marketing) in Punjab and the Directrate of Supply & Prices in Sind. (See Table 3.36 and in detail Appendix C-49)

Market Prices of Basmati were approximately Rs 162 per 100 kg in 1979/80. Fluctuations of price by market were within approximately Rs 2 per 100 kg (1%). In 1984/85, prices were approximately Rs 233 per 100 kg and fluctuations were within approximately Rs 6 per 100 kg (3%). Price paddy increased upto 1.5 times during 5 yeare and fluctuation also increased.

Paddy prices of IR-6 in 1979/80 were approximately Rs 76 and Rs 83 per 100 kg in Sind and Punjab, respectively.

Price difference was approximately 9%. However in 1984/85, price difference was reduced and prices were Rs 135 and Rs 136 per 100 kg respectivery.

Price differences among districts were larger in Punjab. The difference was approximetaly Rs 3 in 1984/85 and Rs6 in 1984/85 per 100 kg, about 4% for both years.

The above mentioned market prices were all above the support prices, and one of reason is that the market prices included the actual transportation cost.
Difference of the price by the area is due to the cost of transportation and the quality of paddy.

(2) Marketing of milled Rice

1) Milled Rice trading

Milled Rice trading systems can be separated into two system, one is a procurement system by the Government and the other a trading system for private channels. In this section only the trading system for private channels are explained while the procurement system by the government is explained in another section.

Generally, milled rice is traded through the following channels.

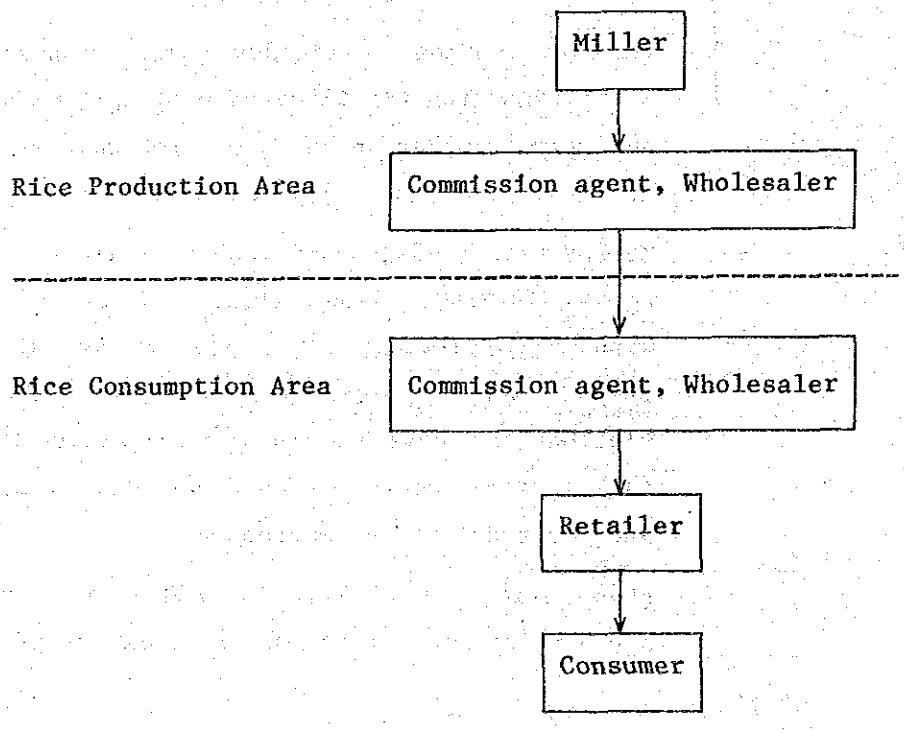


Fig. 3.11 Rice Marketing Channels

As shown in the figure, Commission agents of wholesalers mediated in both rice production and consumption areas. There are some variation in the rice trading system, as mentioned below.

a) Commission Agents and Wholesalers

Commission agents and wholesalers are sometimes the same, because the person holds both licenses for trading.

b) Trading systems

Trading System between Commission Agents/Wholesales in production and consumption areas are as follows:

- ° Telephones are used in long distance business dealings. This was observed in Sialkot.
- ° In remote areas, trading is carried out by sending samples by DHL (TCS) or GPO that were tested in Kamoke and Peshawar, respectively.
- ° Commission agents go to the farm gate.

2) Special case of Marketing

Special case of trading in Karachi, Rawalpindi and Quetta are explained below.

a) Rice marketing in Karachi

In Karachi, which is a big rice consumption area, rice wholesaling was separated into two phases as shown in Figure 3.12. The trading system also has some modifications for Basmati/IR-6.

Basmati, rice was bought through commission agents in Karachi. The trading is made by trucks.

Wholesalers in Karachi sell rice to semi-wholesaler using 1 truck for several semi-wholesalers. Wholesalers and semi-wholesalers have storage facility in Karachi and their stock of rice is for 3 - 4 months.

Semi-wholesalers sell their rice to retailers at this stage, the trading unit is bag, by bag.

Retailers sell rice to consumers in Kg units.

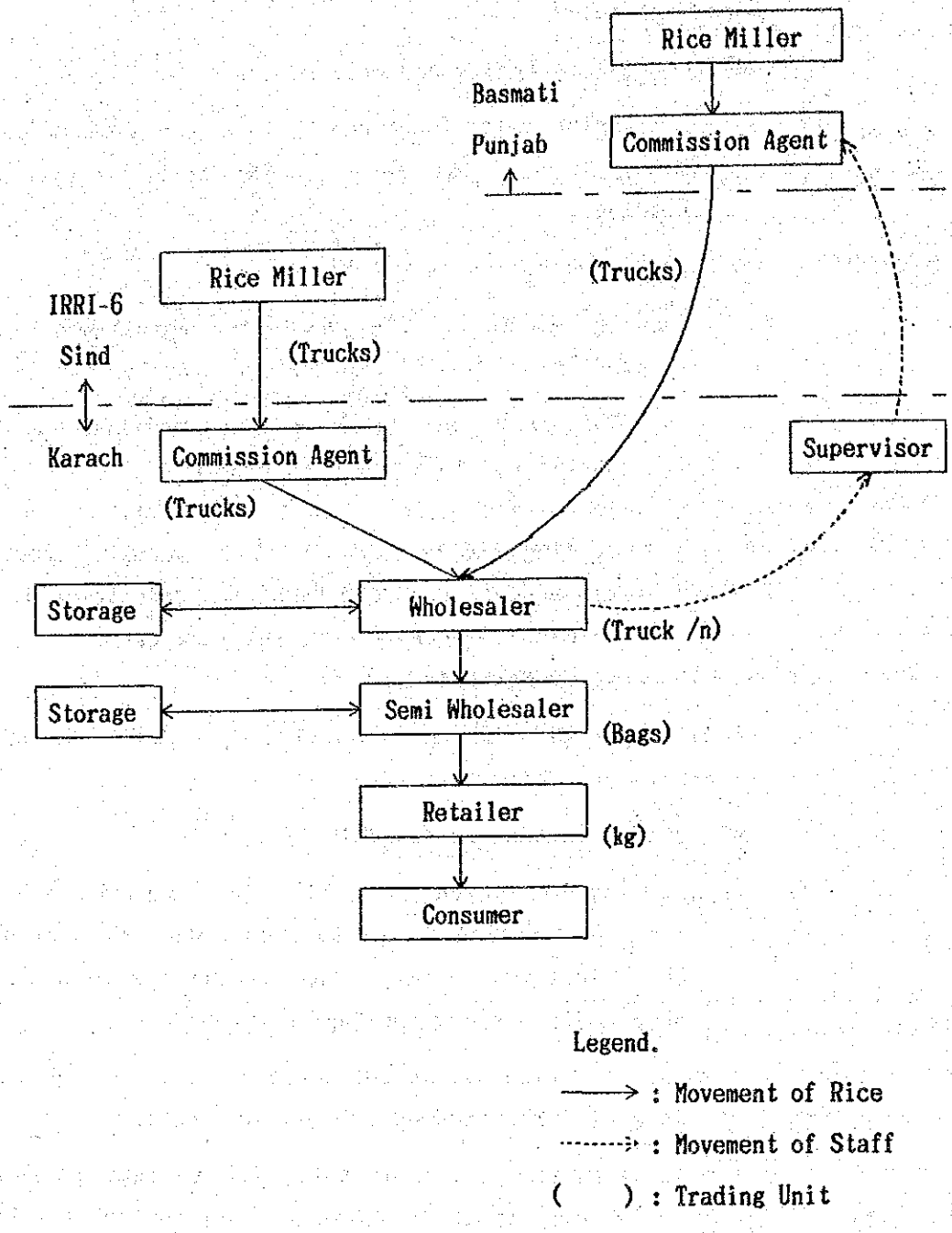


Fig. 3.12 Marketing System in Karachi

b) Marketing in Rawalpindi

Rawalpindi is not a rice producing area, but from this market, rice is distributed not only within Rawalpindi and Islamabad but also to N.W.F.P.

Almost all Basmati rice are bought by retailers in Rawalpandi and Islamabed.

70% of IR-6 rice sales made in form of was white rice and 30% made in form of sela. Out of white rice, 90% of it was distributed toward Kashimir and the remaining 10% was distributed in Marakand and Gilgit. Sela was distributed in Peshawar, Nardan, Kobat and Bame.

c) Marketing in pashawar

Rice produced in N.W.F.P is used for self-consumption and traded rice was transported from Punjab and Sind. The major variety was IR-6 and broken rice was distributed approximetary 5% of total rice trade. Peshawer market territory is with on N.W.F.P.

d) Marketing in Quetta

Quetta is the marketing center of rice in Bulchistan. 20 - 25% of the total was Basmati rice and 75 - 80% was IR-6. IR-6 was transported from Sind and Basmati was transported from panjab. The share of broken rice out of total rice trade was 25% for Basmati 10% for IR-6.

3) Price of rice

a) Wholesale price

- Basmati

Wholesale prices of Basmati in 1984/85 were lower in producing areas; they were Rs 504 and Rs 509 per 100 kg in Sheikhupura and Sialkot, respectively. On the other hand, in IR-6 rice producing areas, prices were higher; such as Rs 839, Rs 763 and Rs 718 per 100 kg in Dadu, Larkana and Jacobabad, respectively.

In rice consuming areas, wholesale prices were high; about Rs 776, Rs 723, Rs 689 and Rs 661 per 100 kg in Peshawar, Quetta, Rawalpind and Karachi, respectively. The wholesale price of broken rice was 55 - 65 per cent of milled rice.

Annual growth rates of wholesale prices were higher in Dadu, Larkana and Jacobabad, where produce IR-6 rice. The rates were 9.8%, 9.2% and 8.2% per annum. Growth rates in other areas were lower than 7% and usually 5% per annum. (See Table 3.37 and in detail Appendixes C-50 to C-59.)

- IR-6

Wholesale prices in 1984-85 were highest in Peshawar, the wholesale price Rs 344 per 100 kg. In Lahore, Sialkot and Shoikhupura, which are Basmati producing areas, wholesale prices were as high as Rs 186 per 100 kg in Lahore, and in some ares, price were Rs 270 pr 100 kg.

In IR-6 producing areas, wholesale prices of IR-6 were lower, about Rs 225 and Rs 222 per 100 kg in Jacobadad and Larkana, respectively. In Karachi wholesale prices were as low as 228 per 100 kg.

Wholesale prices of broken rice were higher for Basmati, about 65 - 95% of milled rice. (See Table 3.38 and, in detail, Appendixes C-60 to C-69.)

b) Retail price of milled rice

- Basmati

In 1984 - 85, the retail price of Basmati was highest in Karachi, Rs 824 per 100 kg. Next were Quetta and Peshawar and Prices were Rs 845 and Rs 815 per 100 kg, respectively. Conversely, in Multan and Faisalabad, prices were Rs 657 per 100 kg both.

The annual growth rate of retail prices was higher in Lahore, Hyderabad and karachi, which are rice consuming areas, and it was 8.4%, 7.6% and 6.6% per annum respectively. Conversely, in Multan and Faisalabad, the growth rate was lower and it was 3.8% and 1.1% per annum, respectively. (See Table 3.39 in detail Appendixes C-70 to C-74.)

- IR-6

In 1984 - 85, the retail price was highest in Lahore, Rs 447 per 100 kg. In Hyderabad, the retail price was lowest, Rs 300 per 100 kg. In Quetta and Peshawar, which are rice consuming areas, retail prices were Rs 410 and Rs 400 per 100 kg, respectively. Conversely in Karachi and Sakkur in Sind, retail price were lower, approximately Re 229 per 100 kg in both.

The growth rate of retail prices varied from almost 0% in Muttan to 15.6% in Sukkur per annum, depending on the area. There were no specified reason for the growth rates of retail prices by area. (See Table 3.39 and in detail Appendixes C-75 to C-79.)

(3) Price comparison of paddy/rice by market

Prices of paddy and milled rice were already explained in the previous section. In this section, differences between paddy, wholesale milled rice and retail milled rice prices as market. Price are explained. (See Figure 3.13)

In Lahore, the difference between paddy and wholesale prices or IR-6 milled rice was larger than that in Larkana. Differences of paddy prices in Larkana areas were small. In Lahore, the difference between paddy and wholesale rice prices was 1.7 times of that as Larkana. Especially in Larkana, the difference was small, Rs 14 per 100 kg, taking the 65% of milling recovery into consideration comporsing to the 64 to of milling recovery of Basmati.

In Lahore, the difference between paddy price and the wholesale price of Basmati rice was more than that of IR-6. For example, in 1984 - 85, the difference in Basmati was 2.4 times while the difference in IR-6 was 2.1 times.

Differences between the wholesale and retail price of Basmati were the largest in Lahore, and it was 1.31 times. Differences were even larger by cities such as Karachi and Hyderabad, 1.27 times and 1.22 times, in price, respectively.

Price differences between wholesale and retail price for IR-6 were more than that for Basmati, and in Lahore, Karachi and Quetta the difference more than 1.5 times. In Hyderabad, which is near IR-6 rice producing areas, the price difference of IR-6 rice was smaller than that for Basmati.

3.4.5 Marketing cost

The rice marketing cost referred to in this survey means cartage, weighing, bagging, transportation, commissions, drying, and rice milling

costs, from carrying paddy to markets or rice mills to the sale of milled rice by wholesalers in consumption areas to retailers.

The marketing cost of milled rice for export is not included.

Old jute bags used by producers to carry paddy rice are included in the cost, but the cost for bags included in the selling price is not considered as cost. The marekting cost by its stage is as shown in Table 3.40.

The relationship between actual price and distribution cost is as follows:

(1) Actual price of paddy and marketing cost

The average annual actual prices of paddy in 1984/1985 for the IR-6 variety were Rs135/100 kg and Rs136/100 kg in Sind and Punjab Provinces according to both province statistics (approx. Rs54/40 kg for both provinces).

The average annual actual prices of paddy for the Basmati variety were Rs233/100 kg (approx. Rs93/40 kg).

1) Producer's real earnings are as follows:

IR-6: Rs127.6/100 kg (Rs51.0/40 kg) - Rs.7.4/100 kg (Rs3.0/40 kg) = Rs120.2/100 kg (Rs48/40 kg)

Basmati: Rs225.6/100 kg (Rs90.2/40 kg) - Rs7.4/100 kg (Rs3.0/40 kg) = Rs218.2/100 kg (Rs87.2/40 kg)

2) The ratio of the producer's burden cost to actual prices is as follows:

IR-6: $\frac{\text{Rs7.4/100 kg (Rs3.0/40 kg)}}{\text{Rs127.6/100 kg (Rs51.0/40 kg)}} \times 100 = 5.8\%$

Basmati: $\frac{\text{Rs7.4/100 kg (Rs3.0/40 kg)}}{\text{Rs225.6/100 kg (Rs90.2/40 kg)}} \times 100 = 3.3\%$

This shows that the producers of IR-6 are paying higher costs compared with producers of Basmati. Furthermore, the average actual price of IR-6 is below the support price by 1 rupee/ 40 kg even though the degree of cleaning, drying and quality of paddy of both varieties do not differ very much.

(2) Milled rice actual wholesale price and marketing cost

Milled rice actual wholesale price is based on that in Karachi, one of the highest consumption areas. Paddy actual price is based on that in Larkana for Sind Province and that in Lahore for Punjab Province. In comparing the actual paddy price and actual milled rice wholesale price, the rice milling yields for milled rice were based on 65% for IR-6 and 64% for Basmati.

Based on the annual average actual price of paddy in Larkana:

Paddy price equal to 100 kg of milled rice is Rs207.7 (Unhulled rice price equal to 40 kg of milled rice is Rs83.1.)

Based on the annual average actual price of paddy in Lahore:

According to federal government statistics, the annual average actual price of paddy equal to 100 kg of milled rice is Rs364.1 (Paddy price equal to 40 kg of milled rice is Rs145.6.)

The actual wholesale price of milled rice in Karachi according to federal government statistics is:

IR-6: Rs228/100 kg (Rs91.2/40 kg)
Basmati: Rs661/100 kg (Rs264.4/40 kg)

Therefore, the total of the rice mill margin and wholesalers cost and margin is as follows:

IR-6: Rs228 - (207.7 + 15.8) = 4.5/100 kg
Basmati: Rs661 - (364.1 + 56.0) = 240.9/100 kg

The margin when selling IR-6 from Larkana is negligible, and it cannot be established from these calculations. Sales of IR-6 from Lahore to Karachi are not possible from these calculations.

The high price of Basmati is probably due to a rarity value in Karachi.

Table 3.36 Average Price of Paddy by Variety, Year and Market

(Unit: Rs/100 kg)

Variety	Year	Punjab Province						Sind Province	
		Sheikhupura	Muridke	Gujranwala	Hafizabad	Kamoke	Sialkot	Larkana	Shikarur
Basmati	1979 - 1980	160.81	161.88	160.81	162.69	160.69	162.19	-	-
	1980 - 1981	195.75	205.25	202.38	202.00	197.50	191.75	-	-
	1981 - 1982	226.00	225.50	229.50	218.25	220.88	235.25	-	-
	1982 - 1983	172.50	220.63	233.50	227.94	223.16	233.99	-	-
	1983 - 1984	232.31	232.06	231.69	234.31	233.00	229.94	-	-
	1984 - 1985	232.75	229.83	232.81	232.38	236.13	235.56	-	-
IRRI-6	1979 - 1980	81.11	81.69	83.25	84.50	82.63	-	77.69	75.00
	1980 - 1981	109.92	85.25	106.31	112.38	107.25	110.75	95.00	87.50
	1981 - 1982	138.75	132.63	136.88	138.88	133.38	129.67	112.50	107.50
	1982 - 1983	130.06	135.06	132.67	136.06	132.69	133.81	127.50	127.50
	1983 - 1984	130.88	132.59	128.45	130.63	134.88	136.42	130.00	130.00
	1984 - 1985	139.50	134.94	133.94	133.69	138.13	138.19	135.00	-

Source: Directrated of Agriculture (Economics & Marketing) Punjab
Bureau of Supply & Prices, Government of Sind

Table 3.37 Wholesale Price of Basmati

	1980 - 1981		1981 - 1982		1982 - 1983		1983 - 1984		1984 - 1985		Growth
	Whole	Broken	Whole	Broken	Whole	Broken	Whole	Broken	Whole	Broken	Rate
Karachi	579.7	-	678.1	364.9	690.5	357.4	657.7	380.6	660.9	360.0	3.3
Hyderabad	525.9	169.3	669.5	415.6	652.6	386.1	632.7	400.3	654.3	418.8	5.6
Sukkur	538.7	173.6	676.1	387.1	687.5	419.6	687.5	309.4	654.8	394.9	5.0
Lahore	482.5	226.8	528.5	302.8	527.8	302.8	565.8	282.4	567.9	322.7	4.2
Multan	554.4	236.2	602.6	331.3	571.5	330.1	556.0	294.6	571.8	338.3	0.8
Faisalabad	542.5	248.6	594.4	307.7	600.3	307.5	565.2	293.4	565.9	320.2	1.1
Rawalpindi	586.7	259.6	667.7	347.2	676.5	317.8	678.8	378.9	688.3	432.0	4.1
Peshawar	628.2	314.9	737.5	332.8	768.2	463.7	775.0	459.6	776.4	453.1	5.4
Quetta	590.4	192.7	682.7	403.6	729.1	449.0	700.7	435.1	723.0	432.9	5.2
Gujranwala	461.5	207.5	498.8	-	486.8	-	503.3	-	520.1	-	3.0
Shaikupura	461.4	207.4	496.6	-	502.5	-	514.8	-	503.8	279.1	2.2
Sialkot	473.4	217.7	528.1	-	533.3	-	517.3	293.4	509.0	290.0	1.8
Okara	428.3	192.0	498.4	244.3	539.3	258.4	530.4	250.8	552.7	285.2	6.5
Jacobabad	524.1	166.1	683.8	459.6	678.7	456.2	670.3	507.3	717.7	452.9	8.2
Larkana	536.9	155.7	678.8	386.5	802.7	455.0	757.4	467.3	762.9	510.4	9.2
Dadu	576.9	150.9	631.4	352.1	680.2	378.3	668.5	-	838.0	-	9.8
Sargodha	468.6	217.1	529.9	248.7	526.4	247.4	549.8	300.8	565.1	292.0	4.8
Bahawalnagar	560.0	214.6	561.0	272.5	-	-	615.5	368.1	652.1	338.5	6.9

Table 3.38 Wholesale Price of IRRI-6

	1980 - 1981		1981 - 1982		1982 - 1983		1983 - 1984		1984 - 1985		Growth Rate
	Whole	Broken	Whole	Broken	Whole	Broken	Whole	Broken	Whole	Broken	
Karachi	-	166.3	178.4	170.0	213.5	193.9	213.4	178.3	228.3	217.9	11.1
Hyderabad	169.3	139.8	200.0	172.7	239.7	183.8	236.3	200.1	241:4	217.7	9.3
Sukkur	173.6	119.4	198.7	157.3	248.1	172.9	231.3	182.1	268.9	210.9	5.9
Lahore	226.8	156.2	252.2	183.6	254.8	192.0	277.5	187.4	285.8	190.9	1.7
Multan	236.2	150.5	225.6	179.2	252.3	187.2	253.3	194.6	265.7	266.5	3.0
Faisalabad	248.6	154.8	254.1	189.0	258.9	191.1	268.1	176.6	278.9	195.9	2.9
Rawalpindi	259.6	-	261.9	180.07	267.4	185.8	287.6	174.7	293.6	221.3	3.1
Peshawar	314.9	155.1	269.6	190.1	328.4	201.1	308.3	190.7	344.4	-	2.3
Quetta	192.7	-	224.7	-	-	-	263.2	-	270.7	-	8.9
Gujranwala	207.5	-	233.7	-	241.6	-	243.7	-	256.6	-	5.4
Shaikupura	207.4	-	255.8	-	266.0	-	282.5	-	273.0	-	7.1
Sialkot	217.7	-	246.4	-	243.7	-	273.4	195.7	271.2	-	5.6
Okara	192.0	156.0	233.4	162.1	246.5	184.8	254.7	-	274.2	-	9.3
Jacobabad	166.1	117.1	204.8	159.2	268.8	160.5	225.0	166.3	225.4	189.3	7.9
Larkana	155.7	115.4	179.8	143.2	-	147.1	220.9	163.0	221.7	185.3	9.2
Dadu	150.9	-	203.4	-	-	-	224.2	-	252.4	-	13.7
Sargodha	217.1	174.3	228.9	180.7	237.3	182.9	250.6	180.4	280.7	202.2	6.6
Bahawalnagar	214.6	167.2	245.9	188.8	-	-	340.4	186.3	300.9	-	8.8

Table 3.39 Retail Price of Rice by Variety by Year

(Unit: Rs/100 kg)

	1980 - 1981		1981 - 1982		1982 - 1983		1983 - 1984		1984 - 1985		Average Growth Rate	
	Basmati	IRRI-6	Basmati	IRRI-6	Basmati	IRRI-6	Basmati	IRRI-6	Basmati	IRRI-6	Basmati	IRRI-6
Karachi	638	239	772	275	825	298	815	332	824	339	6.6	9.1
Hyderabad	594	204	738	227	796	250	772	275	798	300	7.6	10.1
Sukkur	593	187	737	217	750	250	750	259	761	334	6.4	15.6
Multan	646	320	675	308	672	305	654	300	656	310	3.8	△0.8
Faisalabad	627	307	657	324	686	331	659	338	656	346	1.1	3.0
Lahore	541	303	632	333	621	354	705	381	746	447	8.4	10.2
Rawalpindi	630	312	735	313	751	314	756	326	761	340	4.8	2.2
Peshawar	676	359	785	352	836	389	850	400	815	400	4.8	2.7
Quetta	688	289	745	312	831	395	843	400	845	410	5.3	9.1

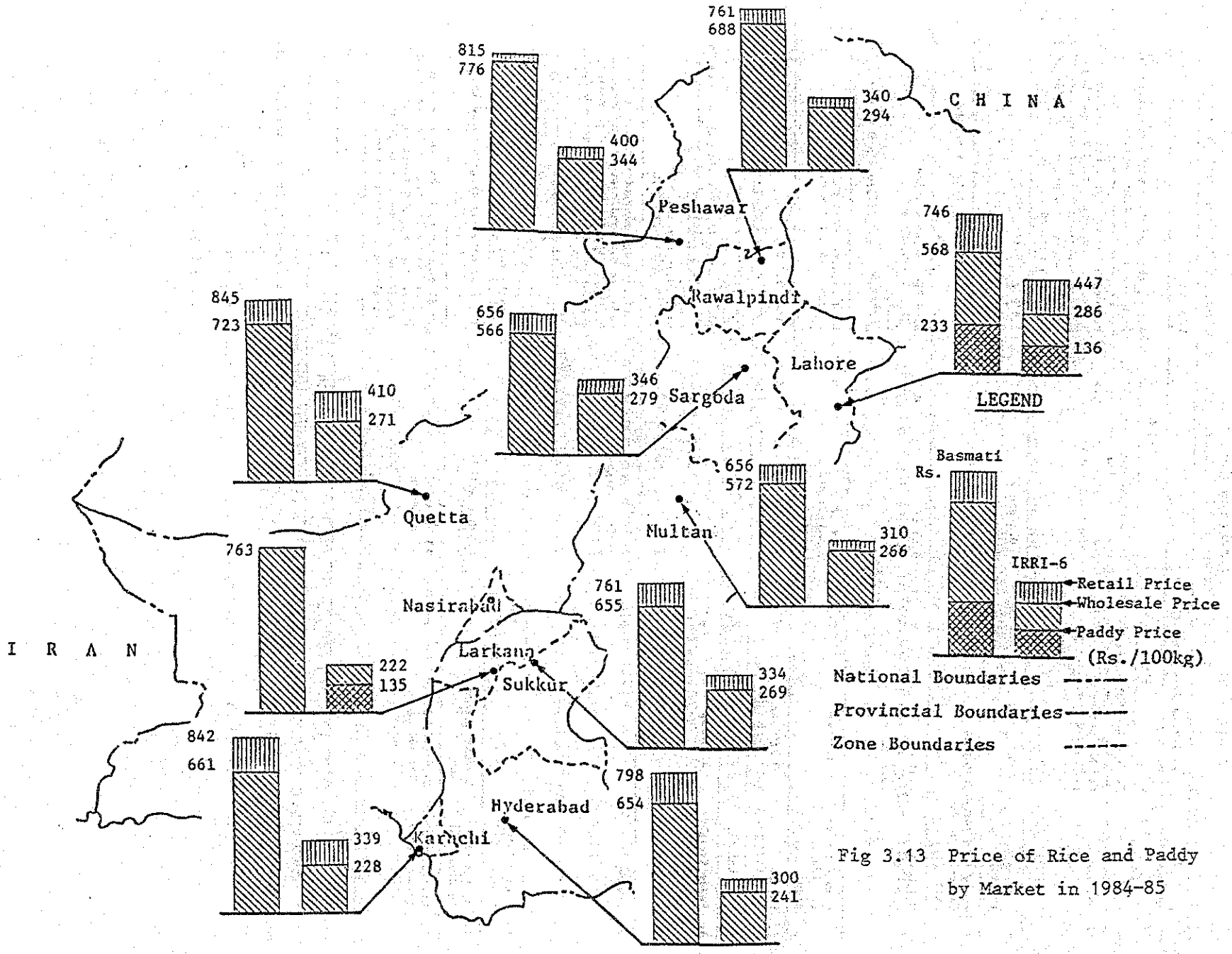


Fig 3.13 Price of Rice and Paddy by Market in 1984-85

Table 3.40 Marketing Cost

Items	Marketing Cost (Rupees)				Remarks
	Sind		Punjab		All numerical values without unit indication are in Pakistani rupees.
	Per current unit	Per 100 kg	Per current unit	Per 100 kg	
1. Bag cost	New bag price 14/bag ÷ 2 x 0.9	0.7	New bag price 14/bag ÷ 2 x 0.9	0.3	Producers buy two empty bags and use about 8 times on average. Sind 2 empty bags price 8.1/bag/8 x 0.5 bag usage ratio/0.7. Punjab 2 empty bags price 6.3/bag/8 x 0.25 bag usage ratio/0.7
2. Loading/unloading cost	0.3/bag x 2	0.9	0.3/bag x 2	0.9	0.3/bag x 2 times/0.7
3. Paddy from farmer market or to rice mill	20/ton	2.0	20/ton	2.0	Average distance between farmer and market or rice mill is approx.
4. Weighing, bagging	0.5% of unhulled rice selling price	0.7	0.5% of unhulled rice selling price	0.9	Sind IR-6 support price 57/0.4 x 0.005 = 0.7 Punjab $\frac{\text{Basmati} + \text{IR-6}}{2}$ 74.5/0.4 x 0.05 = 0.9
5. Commission to commission agent	1/40 kg	2.5	1.5% of unhulled rice price	2.8	Sind 1/0.4 Punjab 74.5/0.4 x 0.015
6. Market committee fee	0.2/40 kg	0.5	0.4/100 kg	0.4	Sind 0.2/0.4
7. Subtotal (1)	3.0/40 kg	7.4	3.0/40 kg	7.4	Cost paid by producers
8. Paddy freight. Market to rice mill	0.75/bag	0.2	0.75/bag	0.9	20% of paddy is moved through markets in the case of Sind and 80% in the case of Punjab. Sind 0.75/0.7 x 0.2 Punjab 0.75/0.7 x 0.8
9. Drying cost		0.7	Contract drying charge 1.5/bag	1.4	Full-time laborers of rice mills dry paddy in Sind and cost is estimated at 0.3/bag. 50% is contracted in Punjab, and full-time laborer charge is 0.5/bag. Sind 0.5/0.7 Punjab $\frac{1.5 + 0.5}{2}$/0.7
10. Rice milling charge		2.0		2.0	By estimation of rice millers' association.
11. Milled rice loading cost	0.3/bag milled rice	0.2	0.3/bag milled rice	0.2	1 milled rice bag weights 96.05 kg.
12. Milled rice transportation cost	11.0/milled rice 100 kg	7.2	49.0/milled rice 100 kg	31.4	In Sind, between Larkana and Karachi, private truck 11/bag. In Punjab, between Lahore-Karachi, NLC truck 49/bag. It depends on sales contracts, but calculated as seller's cost.
Subtotal (2)		7.4		31.6	
13. Total		14.8		39.0	

NOTE: The total is distribution cost per 100 kg of. Cost per 100 kg of milled rice can be converted to be 22.8 and 72.5 rupees in Sind and Punjab Provinces, respectively.

3.5 Existing Institutional and Legal Framework

3.5.1 Institutional Set-up

(1) General features

Rice has two characteristics in Pakistan; one is as a major source of foreign exchange in the national economy, and another is an important food-stuff, next to wheat. Comparatively speaking, the former aspect surpasses the latter. Organizational structures of the relevant agencies have been drawn up under the influence of these kinds of the nature of rice.

Pakistan is a federated state; therefore, different administrative jurisdictions have been vested in the central government and in the Provincial Governments of Punjab, Sind, Baluchistan and the Northwest Frontier. According to the Schedule of the Constitution, agriculture and food are not enumerated either in the Federal Legislative List or the Concurrent List. It can be interpreted that the executive power of the Central Government does not extend over these matters. However, on the other hand, federal institutes for agricultural research, policy formulation, and national economic coordination are involved in the Federal Legislative List being within the executive authorities of the Central Government. In practice, an administrative demarcation has been set up for food and agriculture; daily works and projects are implemented by the Provincial Governments, and federal agencies undertake ultimate coordination and policy decision. Consequently, both the Federal Government and the Provincial Governments take part in the postharvest administration on paddy/rice.

Efforts of the Central Government have been devoted to securing milled rice for export as a source of obtaining foreign currency. The Rice Export Corporation of Pakistan Ltd. (RECP) was established in 1974 for this purpose, and has been engaged in the monopoly export operations. Activities of the other agencies, either Federal or Provincial, are requested to support the undertakings of the RECP from the viewpoint of national finance. In the domestic market, it is commonly observed that seles of rice for local consumption are more advantageous than offering it to the Government, as the transaction price of Basmati is several times the Government procurement price. Sometimes the Government does not attain the target volume of rice procurement. Especially in the Punjab Province where the Basmati variety is produced, strict control has been held over cultivation, harvest, processing, transportation and storage. Even the restrictions on movement of paddy and rice have been imposed by the Government of Punjab. The institutional set-up is not similar to the Sind Province which does not have the Basmati variety as an agricultural product.

Local governments do not participate much in the postharvest operations of paddy/rice. They only impose transportation tax/taxes. Marketing regulations for paddy/rice, including administration of public market, have been directly undertaken by the Provincial Governments.

The role of the private sector is rather large, under the control of the Federal/Provincial Governmnents as mentioned above. Without the collecting and processing functions in the private sector, it would not be possible to secure the Government target of procurement. The public institutions centering around the Provincial Government enable the collection to shipment of paddy/rice after selecting appropriate entrepreneurs authorized (rice millers/rice dealers) out of the private sector.

Farmers have produced paddy within the traditional framework of the rural agricultural community in Pakistan. Their standpoint as growers, is weak compared to rice millers/rice dealers. They do not have much economic superfluity. Various measures have been taken by both the Federal and Provincial Governments for the protection of growers. These include administration of market transactions under the Market Committees, promotion of cooperatives, direct credit facilities and others. Cooperatives are called "Cooperative Societies" which have been established usually as a tool of credit facilities for agricultural inputs such as fertilizers, seeds, and implements. From the farmers' points of view, spontaneous agricultural cooperation is scarce in Pakistan. Even the Cooperative Society is apt to be a credit institution, the contribution being limited in production aspects as well as in marketing.

(2) Central Government of Pakistan

The Federal Government is composed of 25 Ministries. The head of each Ministry is the Minister, designated out of the members of Majlis-e-Shoora (Parliament). A Ministry is further divided into more than one Division, the head of which is the Secretary. In some cases, the Minister of State, who acts as a deputy Minister, is appointed between the Minister and the Secretary; one Secretary may hold the portfolio concurrently of two or three Divisions. These have been arranged under the instruction of the Prime Minister.

The central agency related to the Project is the Ministry of Food, Agriculture and Cooperatives; component Divisions of which are:

- Food and Agriculture Division
- Livestock Division
- Agricultural Research Division

Due to the importance of agriculture in the national economy as well as the wide coverage of jurisdiction charged to the Ministry, a Minister of State is stationed under the Minister for Food, Agriculture and Cooperatives. The two former Divisions (Food and Agriculture, and Livestock) have been administered by one Secretary. Another Secretary was appointed to the Agricultural Research Division; however, the Chairman of an affiliated entity, the Pakistan Agricultural Research Council (PARC), acts concurrently as the Secretary. In practice, the Division and the PARC are regarded as identical and the organizational structure of the Division itself is small-scale.

As for the duties of individual Divisions of the Ministry, the Rules of Business were framed in 1973 and have been revised several times since then. The organizational structure and the functions of each organizational unit in the Ministry of Food, Agriculture and Cooperatives are stated hereunder, based on these Rules of Business. The outline structure of the Ministry is shown at the outset.

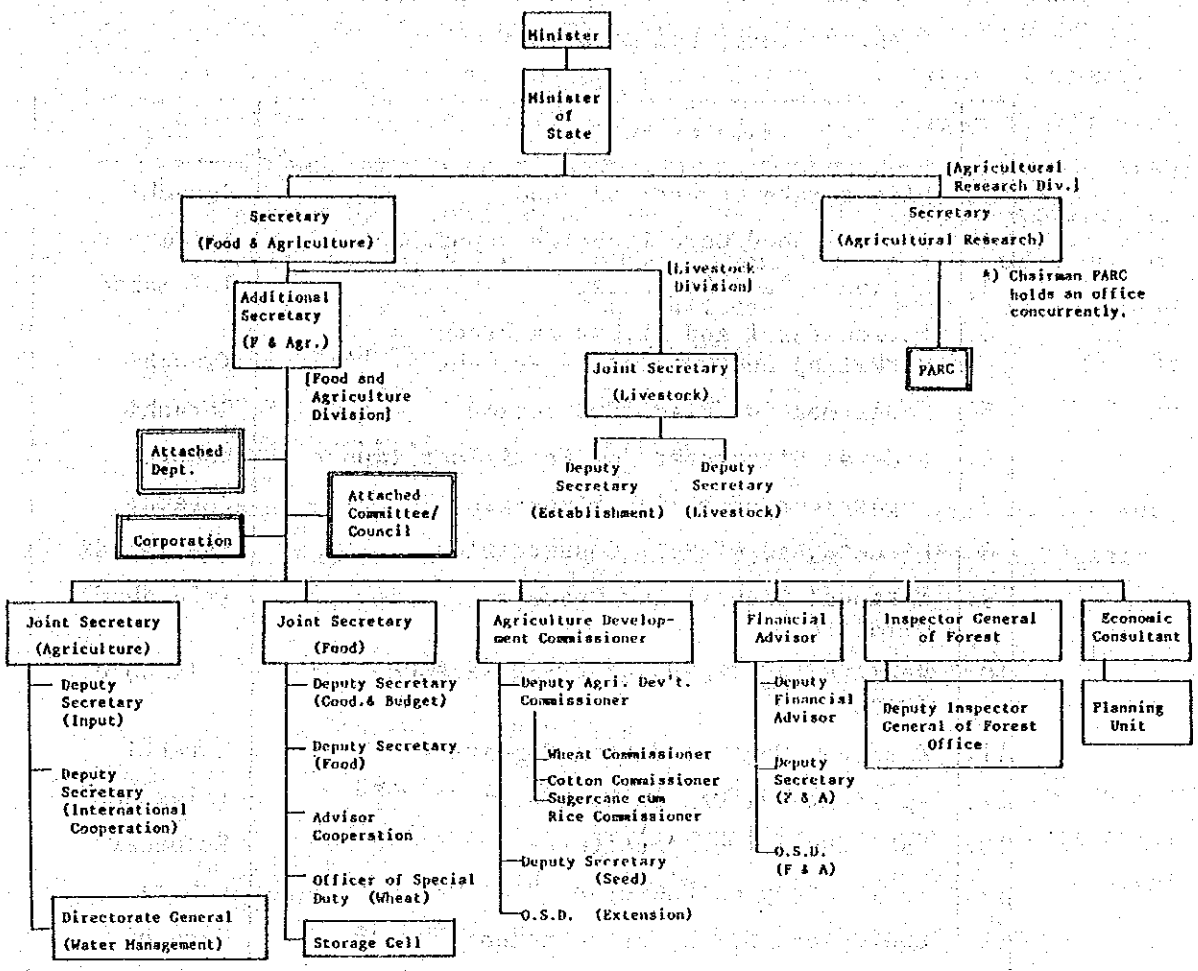


Fig. 3.14 Organization Chart of the Ministry of Food, Agriculture and Cooperatives

The Departments/Directorates (General)/Committees/Councils under the administrative control of the Ministry of Food, Agriculture and Cooperatives and the location of their headquarters are as listed below:

Table 3.41 Entities under the Control of the Ministry of Food, Agriculture, and Cooperatives

	Name of Entity	Seat
1.	Directorate General of Food	Karachi
2.	Federal Seed Certification Department	Islamabad
3.	National Seed Registration Department	Islamabad
4.	Agricultural and Livestock Products Marketing and Grading Department	Karachi
5.	Department of Plant Protection	Karachi
6.	Federal Directorate of Fertilizer Import	Lahore
7.	Department of Marine Fisheries	Karachi
8.	Directorate of Soil Conservation	Rawalpindi
9.	National Council for Conservation for Wildlife	Islamabad
10.	Pakistan Agricultural Research Council (PARC)	Islamabad
11.	Pakistan Central Cotton Committee	Karachi
12.	Agricultural Prices Commission	Islamabad
13.	Pakistan Forest Institute	Peshawar
14.	Soil Survey of Pakistan	Lahore
15.	Zoological Survey of Pakistan	Karachi

Of these, the Agricultural Prices Commission is of top importance as it is closely concerned with the postharvest operations of paddy/rice. (Refer to the succeeding Sub-section 3.5.2). Next is the Pakistan Agricultural Research Council (PARC), the functions of which are the coordination and promotion of integrated agricultural research at the federal level. Crop-wise coordinators have been assigned to watch over the various research institutes. Under the PARC, the National Agricultural Research Contre (NARC) has been established and a coordinator for rice is stationed. Inside the NARC, the Farm

Machinery Institute (FMI) is separately engaged in research activities for the adaptation of agricultural machineries. The Directorate General of Food manages import control of wheat and distribution of the imported wheat. The Agricultural and Livestock Products Marketing and Grading Department undertakes quality control for export, grading supervision and survey of market conditions in terms of agricultural produce other than paddy/rice, cotton and wheat. Either has little connection with the Project. Such agricultural input-related entities as the Federal Seed Certification Department, National Seed Registration Department and the Federal Directorate of Fertilizer Import have rather maintained their influence on paddy/rice production. The Pakistan Agricultural Storage and Services Corporation, Ltd. (PASSCO) is also attached to the Ministry; the detailed description of the PSSCO may be found in another part of this Sub-section.

Organization and functions of the Food and Agriculture Division, closely related to the Project within the Ministry, are summarized as follows:

1) Office under the Joint-Secretary, Agriculture

Agriculture Inputs Wing:

Keeping a watch over and coordination of the supply conditions of agricultural inputs such as fertilizers and pesticides. Administrative and financial control of the Federal Directorate of Fertilizer Import.

International Cooperation Wing:

Coordination with regard to the World Food Programme of the FAO and other aid/assistance from abroad.

Water Management Cell:

Coordination of water management projects mainly financed by the World Bank.

2) Office under the Joint-Secretary, Food

Coordination and Budget Wing:

Compilation of the budget all over the Ministry and coordination.

Food Wing:

Keeping a watch over the food supply conditions (including storage volume). Control on foodgrain procurement irrespective of exportation and importation. Control on imports and exports of foodgrains and foodstuffs. Inspection and grading of foodgrains and foodstuffs for imports and export. Maintenance of quality standards for imports and exports. (Inspection, handling, storage and shipment of rice for export are within the authority of the Commerce Division, Ministry of Commerce, and therefore excluded). Preparation of basic plan for bulk allocation of foodgrains and foodstuffs.

Cooperation Section:

Economic cooperation and planning in respect of food.

Office of the O.S.D. (Wheat):

Support to the Food Wing in terms of wheat procurement, transport and distribution.

Storage Cell:

Coordination of godown construction projects mainly financed by the World Bank.

3) Office under the Agriculture Development Commissioner

Crop Sector:

Keeping a watch over the cultivation/production trend by crop. Emergency countermeasures to each crop. Presiding over the quarterly meetings of agriculture-related officials. Preparation of statistical data, i.e. production, consumption, prices, exports, regarding foodgrain and major agricultural products (wheat, cotton, sugarcane, paddy/rice, etc.).

Seed Industry Project:

Coordination of the Seed Corporation Projects in Punjab and Sind Provinces, based on the funds from the World Bank.

Office of the O.S.D. (Agriculture Extension Commissioner):

Coordination of the agriculture extension projects mainly financed by the World Bank.

4) Office under the Financial Adviser

Finance and Accounts Wing:

Financial and accounting management of the whole Ministry.

Office of the O.S.D. (Finance and Accounts):

Specific financial survey to support the Finance and Accounts Wing.

5) Office under the Inspector General of Forest

Forestry Sector:

Policy, formulation, coordination and superintendence with regard to forest produce and products.

6) Office under the Economic Consultant

Planning Unit:

Economic planning and policy making in respect of agriculture, food, forestry and wildlife.

Of these, the Crop Sector under the Agriculture Development Commissioner (especially the Rice Commissioner) takes part in the postharvest operations of paddy/rice, engaged in production planning, evaluation/monitoring and technical guidance in consultation with the Provincial Governments. Since the Crop Sector has no field offices, the attainment of the planned production target is dependent upon the executing efforts by the Provincial Agriculture Department in practice. Towards the Project itself, the International Cooperation Wing under the Joint-Secretary, Agriculture has a connection, coordinating any kind of foreign assistance projects.

In addition to the Ministry of Food, Agriculture and Cooperatives, the vital roles are observed in the credit institutions for agricultural development. The Agricultural Development Bank of Pakistan (ADBP) and the Federal Bank for

Cooperatives are the representatives. Particularly, the latter has played an active part in promoting cooperatives so that it is not necessary to set up any inner organizational unit in the Ministry. These two Banks are attached to the Ministry of Finance and Economic Affairs from essential qualification of financial institutions. Detailed activities are mentioned in 3.5.3.

(3) Provincial Agriculture Dept., Food Dept., and Marketing Dept.

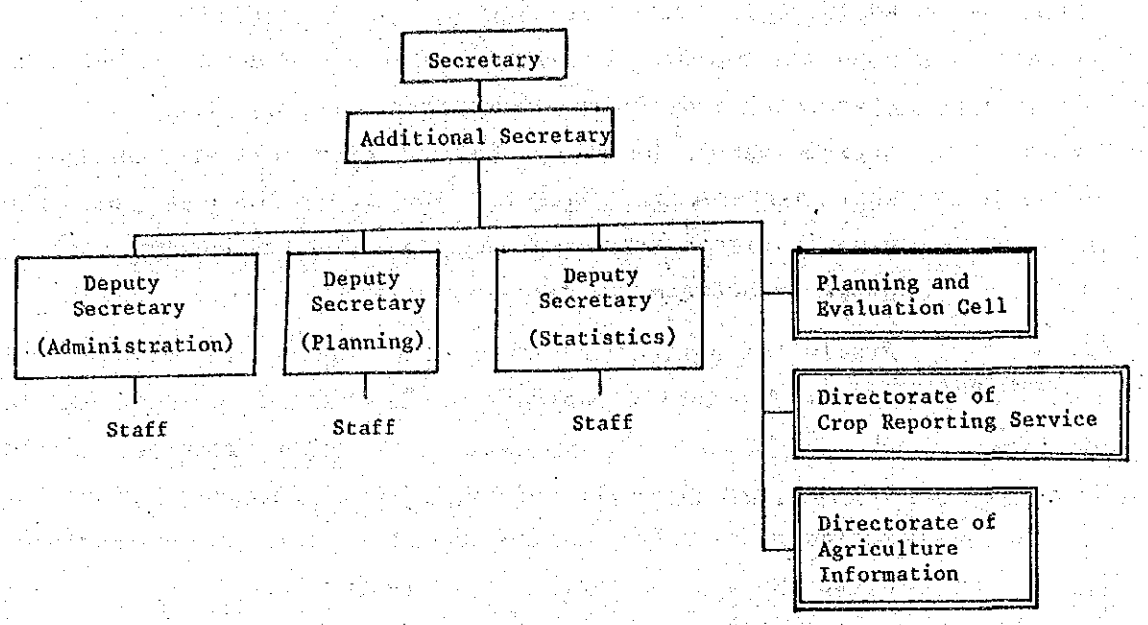
The administration system of the Provincial Governments is different from that of the Federal Government. The executive head is not a Prime Minister but a Chief Minister who is elected by direct and free vote for the membership of the Provincial Assembly. Nine to fifteen Ministers are designated from the Assembly members and they form a Provincial Cabinet. Each Minister usually takes charge of more than one Department. The Departments have been designed as basic administrative tools for the respective Provincial Governments. Although the number of Ministers in the Province may vary from time to time after the election, the Departments remain on the job, ensuring the consistency of the administrative practices. The executive head of each Department is the Secretary, and in conformity with the designation of the Chief Minister, a Chief Secretary is usually nominated for the Services and General Administration Department. The position of the head of the Planning and Development Department has been determined to be superior to ordinary Secretaries since it involves the momentous task of adjusting the development planning with the Federal Government.

Comparing four Provinces of Punjab, Sind, Baluchistan and the North West Frontier in Pakistan, it is observed that the organizational structures of the the Provincial Governments are almost similar. With the Punjab and the Sind Provinces, individual organization and functions of the agriculture dept., food dept., and the agriculture produce marketing-related departments are described hereunder.

administers both. In Punjab, the Agriculture Dept. has been established separately from the Food Dept. and the Livestock and Diary Development Dept. Functions and activities of the depts. in both provinces are analogous. The difference consists in the fineness of the organizational structure in proportion to the agricultural progress between the two provinces.

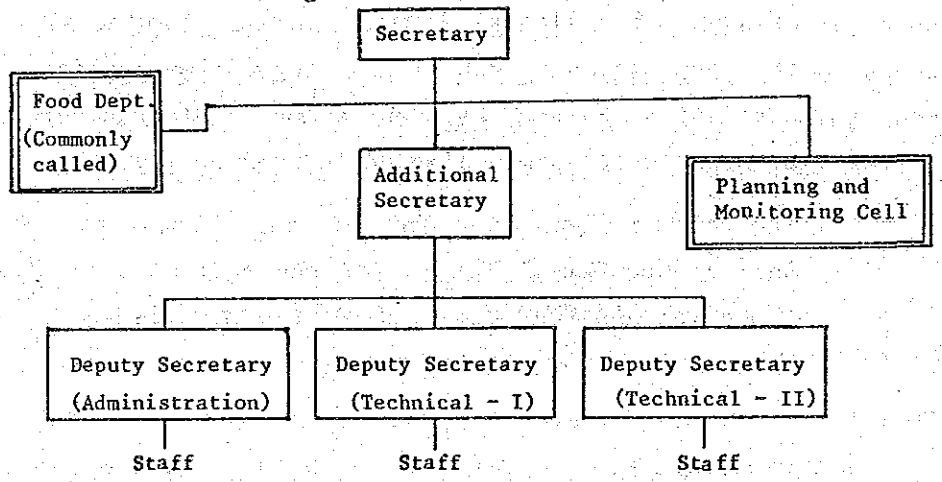
Provincial agriculture department secretaries are located in the Provincial capitals of Lahore and Karachi, and in the field carrying out daily works in practice. Field set-ups are generally divided into 4 branches; research, engineering, extension and specific project organizations. Directorate Generals, Directorates and other administrative units have been instituted for the respective branches. Field offices and institutes are devoted to the assigned works according to the administrative division in the Province; at Regional (= Division) level, District level, Tehsil (sub-division of the District) level, Thana/Markez (sub-level, of the Tehsil) level and the smallest Union Council (collective of tens of villages) level. At the Provincial capital, the specific unit such as planning and evaluation cell and statistical bureau has been set up. Attached corporations or organizations may also be located nearby.

The organizational outline of the Secretarial. Both the Agriculture Dept., Punjab and the Agriculture, Livestock, Fisheries and Food Dept., Sind, are designed as follows:



Note: The staff is usually composed of the Under Secretary, Section Officers, Statistical Officers and the attached clerical workers and labourers.

Fig. 3.15 Outline Organization of the Secretariat of the Agriculture Dept., Punjab



Note: Responsible Sections of the 3 Deputy Secretaries are:

Administration: Admn-I, II, III; Budget & Accounts and General

Technical-I : Development, Inputs, Mechanical, Animal Husbandry and Fisheries

Technical-II : Crop, Extension, Research and Plant Protection

Table 3.16 Outline Organization of the Secretariat of the Agriculture, Livestock, Fisheries and Food Dept., Sind

The Planning and Evaluation Cell, Punjab or the Planning and Monitoring Cell, Sind, either attached to the Seretariat, enjoys an important position in respect of the planning activities for newly-developed projects. The tasks are assigned for the Annual Development Programme (ADP) with a preliminary review of the project proposals prepared by the field organizations to submit them to the Secretary with comments.

As mentioned already, field organizations are divided into research, engineering, extension and specific project management offices. They are described hereunder.

a) Research Wing

This branch performs basic study/research on the cultivation techniques and the harvesting methods of the various agricultural crops, as well as their practical applications. In the Punjab Province, the Agriculture University located at Faisalabad is attached; however, in the case of Sind, advanced education is within the jurisdiction of the Provincial Education Dept., and therefore excluded in the activities of the Agriculture Dept. These show that the engagement of the Research Wing involves part of agricultural education in addition to research activities. Close communication has been maintained with the other branches of the agriculture department, especially the Extension Wing. The Research Wing also undertakes training courses for extension workers, presentation visits to the field offices and technical guidance. As regards paddy cultivation, the Rice Research Institute has been established in both the Provinces, allowing it to extend research to the Rabi-crops not just the rice in the Karif season. The location of the headquarters of the Research Wing is Faisalabad in the Punjab Province and Tando Jam in the Sind Province, where the Agriculture Univercities are located nearby. The existing institutes are

enumerated below, together with the location of the central facilities. The name of the institutes is self-explanatory for the research subject.

Punjab

	Name of Institute	Seat
1.	Ayub Agricultural Research Institute (HQ.)	Faisalabad
2.	Barani Agricultural Research Institute	Chakwal
3.	Wheat Research Institute	Faisalabad
4.	Oilseeds Research Institute	Faisalabad
5.	Vegetables Research Institute	Faisalabad
6.	Cotton Research Institute	R.Y. Khan
7.	Fodder Research Institute	Sargodha
8.	Mango Research Institute	Shujabad
9.	Horticultural (Citrus) Research Institute	Sahiwal
10.	Rice Research Institute	Kala Shah Kaku
11.	Maize and Millets Research Institute	Yousafwala
12.	Soil Fertility Survey and Soil Testing Institute	Lahore
13.	Plant Protection Institute	Faisalabad

Sind

	Name of Institute	Seat
1.	Agricultural Research Institute (H.Q.)	Tando Jam
2.	Rice Research Institute	Dokri

Note: In the Sind Province, the Research Wing has not had crop-wise institutes except for paddy/rice. The Agricultural Research institute, Tando Jam takes charge of all other kind of crops, of which independent sections are existent for cotton, oilseed, wheat and sugarcane.

Many research stations belonging to the respective Institutes lie scattered over the Province. The administrative head of the Research Wing in Punjab is the Director General and a Director has been appointed to each Institute, while both the Institutes of the Sind Province have Directors in chief. The post of head of the Rice Research Institute, Kala Shah Kaku, Punjab is extraordinarily for a Director General, taking into consideration the capability of the person in the position for the time being.

b) Engineering Wing

This branch mainly provides the services of land levelling by bulldozers and of deep-well drilling with boring machines on a hire basis. For this purpose, the Engineering Wing in the Punjab Province possesses around 600 bulldozers, 230 hand boring plants and 20 power rigs. In addition to these, several kind of agricultural implements have been provided. The machinery lease service is carried out with drivers/operators (namely, custom hire service), and for agricultural purposes, the subsidy charging system is adopted.

Field headquarters are located at Faisalabad and Multan in the Punjab Province, and Hyderabad in the Sind Province, where the Director is stationed. (In Punjab, both the Directors report to the Director General, Field). For the maintenance and repair of machineries, a workshop has been set up in almost each District. In case of the Punjab Province where the Engineering Wing is better-organized, one Agricultural Engineer has been manned at the District level and one supervisor who looks after the operational conditions is stationed at the Tehsil level. The machineries are transported from the depot in each District at the request of hiring.

c) Extension Wing

The organization of this Extension Wing has been consolidated with the projects financed by the World Bank since 1979. The major obligations are the campaign on crop production, plant protection programmes, and farmers' education/training by visits/demonstrations. It is through the Extension Wing that the new cultivation technology developed by the Research Wing would be introduced to the practical production stage.

The World Bank project was firstly implemented in the Punjab Province and next in the Sind Province. The set-up of the Extension organization of Sind is behind hand; up to now, the Extension Wing has been active only in 5 Districts out of 13 Districts in all. The staffing pattern of extension workers is almost uniform in case of Punjab where the organization has been better-equipped. One Field Assistant is stationed at the Union Council level. One Agriculture Officer takes care of 4 to 5 Field Assistants. Each District is under one Extra Assistant Director and each Division one Deputy Director. The situation in Sind is different: one Agriculture Officer for around 6 Field Assistants, one Assistant Director for 6 Agriculture Officers, and one Deputy Director takes charge of each District.

The administrative head of the Extension Wing is the Director General in both the Provinces, the headquarters of which is located at Lahore in Punjab, and at Hyderabad in Sind. The Director, who is the deputy of the Director General and has the authority over the assigned Region (= Division), is stationed at the following places:

Punjab

Lahore (HQ), Lahore, Multan and Rawalpindi

Sind

Hyderabad and Sukkur

Principal and In-service Training Institutes have been established in the more progressive Punjab Province; i.e., at R.Y. Khan, Sargodha and Rawalpindi, in which the preliminary or intermediate training of the extension workers such as Field Assistants is carried out. The integration of these 3 Institutes' operations is the responsibility of the Directorate of 3rd Education Project, Lahore, which is also the internal organizational unit under the Director General, Extension, Punjab.

d) Specific project management organizations

The majority comes under the World Bank - assisted projects and are composed of the following:

Punjab

On-farm Water Management Project
Agricultural Development Project, Gujranwala

Sind

On-farm Water Management Project
South Rohri Development Project
Left-bank Drainage Project
Common Water Management Project

To each of these projects, specific organizational units and the respective responsibilities have been established. Especially in the case of the On-farm Water Management Project in Punjab, the Water management Wing has been separated inside the Agriculture Dept., under the Director General, Water Management.

2) Provincial food department

Comparing the food departments of the Punjab and the Sind Provinces, the field set-up is almost identical. As explained previously with the agriculture department, the Sind food department is an internal Directorate of the

Agriculture, Livestock, Fisheries and Food Dept.; however, it does enjoy some independence and self-reliance. (Hereinafter used the word of "Food Dept." which it is commonly called, even in the case of the Sind Province).

The organizational structure of the Food Depts. is stated below. The outline organization of the Secretariat is shown by Province.

Panjab

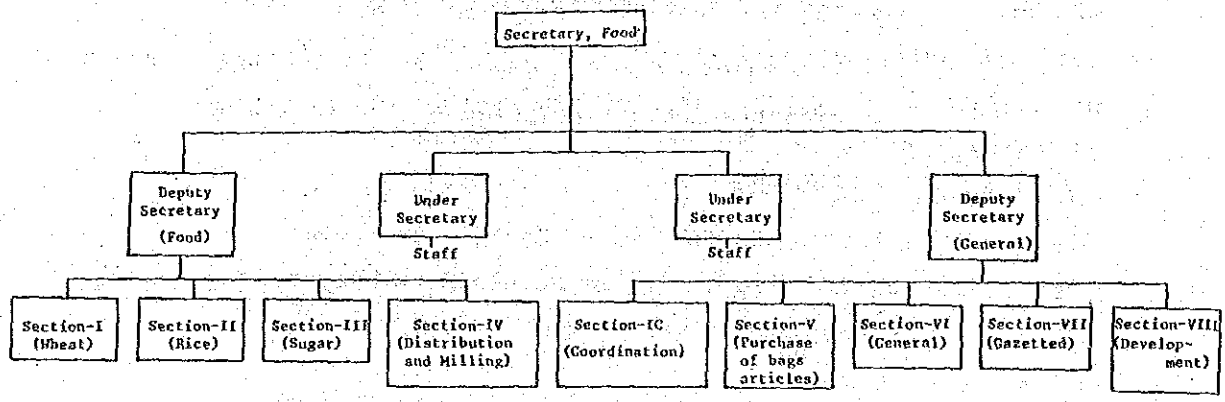


Fig. 3.17 Organizational Structure of the Secretariat of Food Depts, Punjab

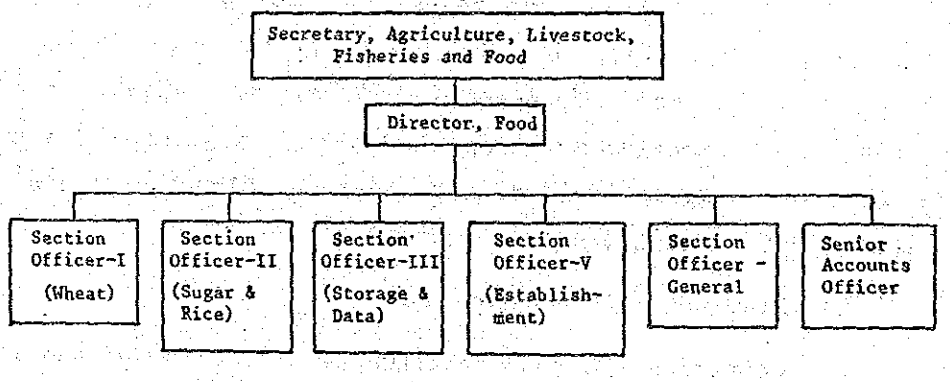


Fig. 3.18 Organization Structure of the Secretariat of the Food Dept., Sind

The Secretariat of the Food Dept. is located at Lahore in the Punjab Province, and at Karachi in the Sind Province. The Food Dept., Punjab includes a separate entity, the Punjab Food Directorate, besides the Secretariat at Lahore, providing for large coverage of the obligated works. In the role as the overall administrator of the field organizations, the Punjab Food Directorate controls the daily works of various field offices. The organizational structure of the Directorate is as shown below:

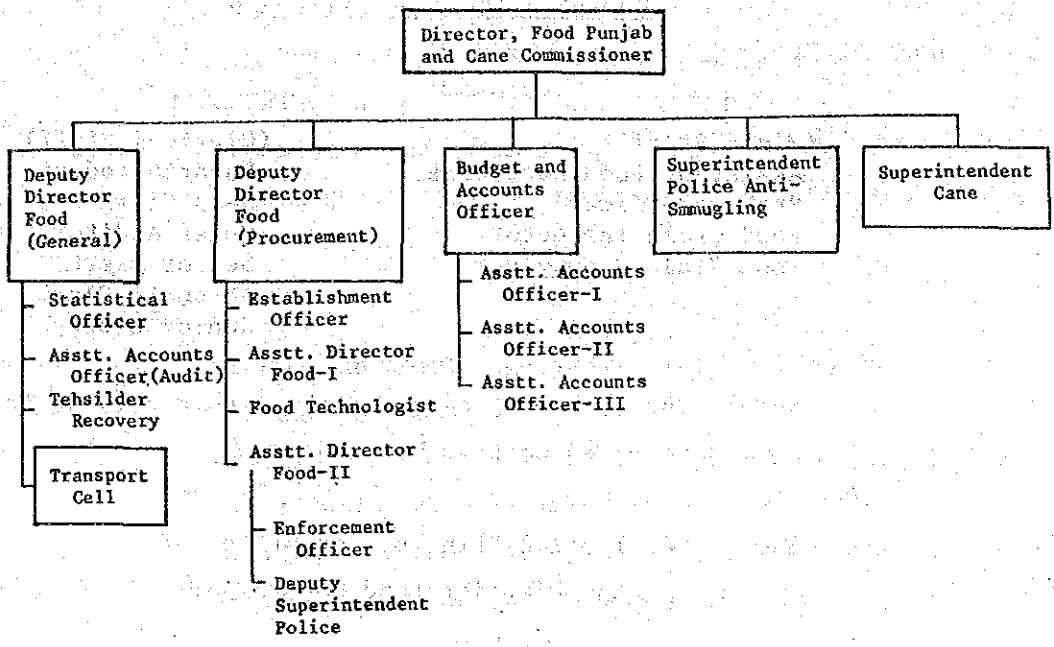
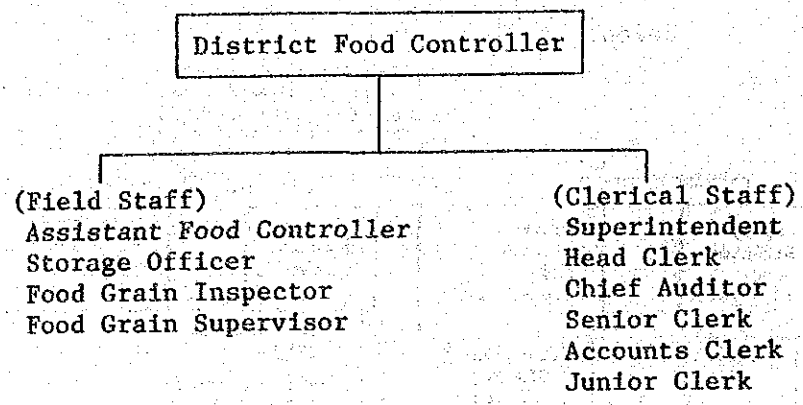


Fig. 3.19 Organicational Structure of the Punjab Food Directorate

As shown above, the Director, Food Punjab is concurrently charged with the office of the Cane Commissioner. In the Sind Province, the Cane Commissioner directly report to the Secretary Agriculture, Livestock, Fisheries and Food, and is rather within the jurisdiction of the agriculture department.

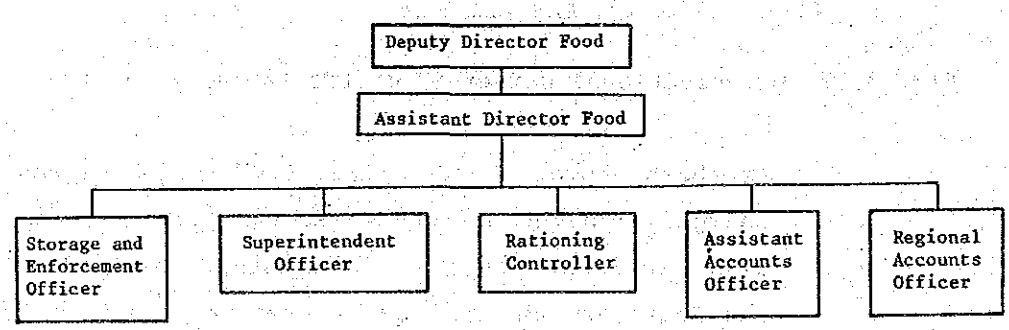
The field set-up of both the Food Depts. is almost similar as stated previously. The Office of the District Food Controller is located at the center of a District, and administratively controlled by the Regional Food Office,

the seat of which is the center of a Region (= Division) containing several Districts. The head of the Regional Food Office is nominated as the Deputy Director and is stationed between the Director, Food of the Secretariat and the District Food Controllers. The following is the typical structure of the Office of the District Food Controller and the Regional Food Office:



Note: The number of each staff varies according to the required work to be handled.

Fig. 3.20 Typical Structure of Office of the District Food Controller



Note: Rationing Controllers are stationed only in the Regional Food Offices in large-scale cities; in Punjab, Lahore, Rawalpindi, Faisalabad and Multan, and in Sind, Karachi and Hyderabad.

Fig. 3.21 Typical Structure of Regional Food Office

The functions/obligations of the respective Food Depts. are somewhat different, under the designated Rules of Business of the Provincial Government. The following is the stipulation of these by Province:

Punjab

- ° Voluntary procurement of wheat
- ° Monopoly procurement of rice
- ° Distribution of wheat and atta
- ° Procurement of insecticides, fumigants and gunny bags
- ° Supervision of ration depots
- ° Control over flour mills, sugar mills and rice husking units
- ° Administration of food laws
- ° Planning and construction of additional storage accommodation

Sind

- ° Food procurement, rationing and distribution
- ° Storage of foodgrains
- ° Administration of the Tea (Control of Prices, Distribution and Movement) Ordinance, 1960
- ° Service matters except those entrusted to the Services and General Administration Dept.

Considering these, the obligated works of the Food Dept., Punjab cover the wider extent.

3) Provincial marketing department for agricultural produce

The Provincial Government notifies to establish regulated markets to eliminate marketing malpractices and to scale down excessive marketing charges. The administration of regulated markets is the responsibility of the Market Committees which are constituted with the representatives of the growers as well as traders. To the Market Committees, the Provincial Government has also participated in order to ensure effective operations of the regulated markets. The titled marketing department carries out the following obligations for this purpose:

- Development of agricultural marketing and marketing regulations
- Collection, tabulation and analysis of prices of agricultural commodities and their dissemination
- Maintenance of marketing intelligence system
- Monitoring control over the production cost of various crops
- Enforcement of agricultural produce marketing laws and regulations

The marketing departments for agricultural produce vary greatly between the Punjab Province and the Sind Province. In Punjab, one Directorate within the Agriculture Dept. takes charge of these activities, while in Sind the Bureau of Supply and Prices under the Provincial Industries Dept. is responsible.

In total 124 Market Committees have been instituted in the Punjab Province. The number of regulated markets may be regarded to be equivalent. Control over the Marketing activities of agricultural produce has been undertaken by the Directorate of Agriculture (Economics and Marketing) with the headquarters in Lahore. The administrative head is the Director who reports directly to the Director General, Field of the Agriculture Dept. Organizational structure of the headquarters and field set-up are as under:

Headquarters

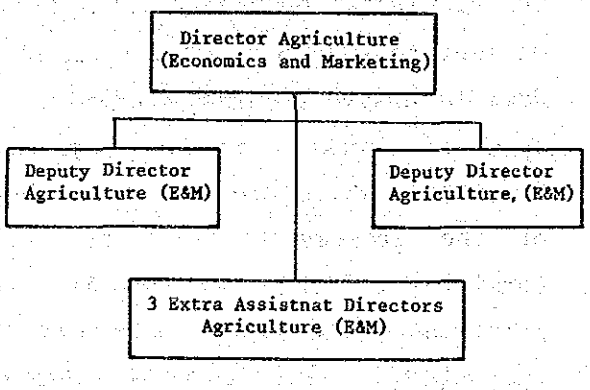


Fig. 3.22 Organization of the Headquarters of the Directorate of Agriculture (Economics and Marketing), Punjab

Field Offices

In each District, one Extra Assistant Director and one Agriculture Officer have been stationed.

In Sind Province, the Bureau of Supply and Prices of the Industries Dept. takes charge of the regulation of the agricultural produce marketing system, collection and distribution of price data and market information. The location of the headquarters is Karachi, and the following is the organizational structure:

Headquarters

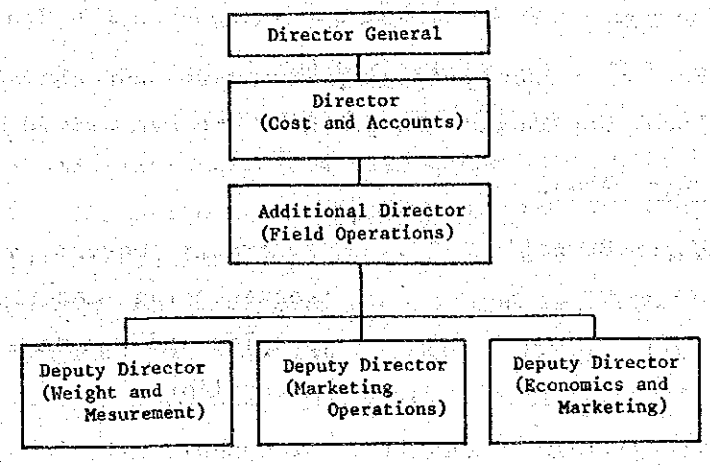


Fig. 3.23 Organization of the Headquarters of the Bureau of Supply and Prices, Sind

Field Offices

At each District, the office with the Assistant Director as a head has been engaged in the daily works (see below).

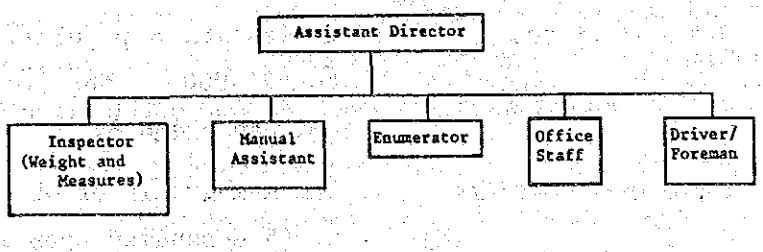


Fig. 3.24 Field Set-up of the Bureau of Supply and Prices, Sind

(4) Local Government institutions

In 1979, the Local Government system was introduced in Pakistan. The Local Governments have been instituted under the provisions of the Provincial Ordinances. However, the administration of the public market by the Local Government stipulated in the related Ordinances has not been actualized. This is due to the fact that regulations of the Market Committees by the Provincial marketing department for agricultural produce are adopted in the present executive framework. Therefore, the Local Governments are not concerned with the postharvest operations of paddy/rice, except for the levy of some local taxes (as shown in the 3rd part of 3.5.4).

For reference purposes, the type and characteristics of the Local Governments in Pakistan are summarized below:

Rural Areas

Union Council	:	generally covers a manageable area representing about 8,000 to 15,000 people, and consists of 8 to 15 local councillors.
Tehsil/Taluka Council	:	at sub-District level, the Chairman of Union Councils and the members of District Councils falling within a Tehsil/ Taluka are ex-officio members, electing a chairman among themselves.
Zila/District Council	:	comprises such members as may be determined on the basis of population.

Urban Areas

Town Committee	:	represents a population between 5,000 to 25,000. The membership ranges between 5 and 8.
Municipal Committee	:	the membership of which ranges from 15 to 65 depending upon the population.
Municipal Corporation	:	are constituted in large cities, the membership of which ranges from 40 to 100.

Metropolitan Corporation: only in the city of Karachi which has the largest population among the cities of Pakistan, it is established.

(5) Autonomous bodies on the statutory basis

Many autonomous bodies exist inside the Federal and Provincial Governments, under the legislation. They were established with the intention of supplimenting the already built-up institutions, which have difficult maneuverability within the present framework of regulations, as well as to ensure operations at the commercial basis. The bodies closely connected to the Project are the Pakistan Agricultural Storage and Services Corporation Ltd. associated with the Federal Ministry of Food, Agriculture and Cooperatives, agricultural inputs supplying corporation/organization and seed corporation both belonging to the Provincial agriculture department. Besides these, the Roti Corporation of Pakistan, also attached to the Federal Ministry, is engaged in the baking of Roti (Paksitani bread) but has no relationship. Furthermore, the Punjab Flour Milling Corporation under the Food Dept., Punjab became defunct in 1979.

1) Pakistan Agricultural Storage and Services Corporation, Ltd. (PASSCO)

The PASSCO is a public corporation established in 1973, under the administrative control of the Ministry of Food, Agriculture and Cooperatives. Although the Memorandum and Articles of Association stipulate a wide range of its functions enabling every kind of activity related to agriculture, it undertakes practical operations within the extent of instructions from the Ministry. The instructions may be summarized as follows:

- Provide government support prices for the specified agricultural commodities to the growers.
- Stabilize prices of specified food items for the benefit of consumers.
- Promote agro-based units such as cold storages, Dal plants and rice husking mills.

- ° Construct modern storage accommodation to minimize storage losses.
- ° Provide farm machinery services to the small farmers on a hire basis.
- ° Handle the export of wheat and wheat products.
- ° Maintain reserve stocks of wheat and pulses for the Government.

Vested with these functions, the PASSCO acts as one of few field arms to implement the agriculture-related projects of the Federal Government.

The top-most decision-making is made by the Board of Directors consisting of the representatives of shareholders (the Federal Government, 5 nationalized commercial banks and the ADBP). The Directors representing the Federal Government come from the Ministry of Food, Agriculture and Cooperatives and from the Ministry of Finance and Economic Affairs. The executive head of the PASSCO is the Managing Director who is appointed by the Board of Directors. The organization is divided into two; the headquarters situated at Lahore, and the field set-up. Inside the headquarters, two Senior General Managers are stationed under the Managing Director, and each business section has the General Manager as a head. The outline structure of the PASSCO, focussed on the headquarters, is as follows:

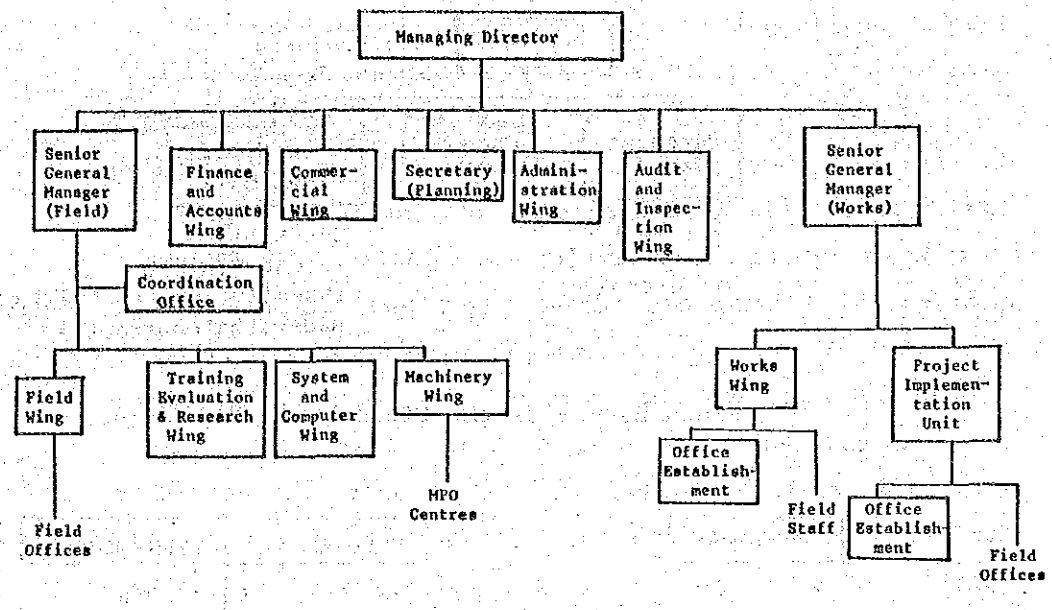
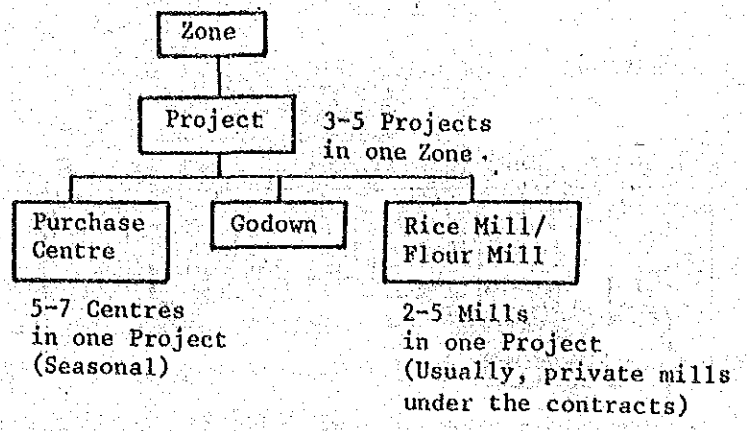


Fig. 3.25 Organization Chart of the PASSCO

The MPO Centres under the Machinery Wing are the field organizations which pool agricultural machineries to provide hiring services to the growers, located in Kot Mubarik and Depalpur in Punjab, T.M. Khan in Sind, and Gulistan in Baluchistan. These four MPO Centres possess a total of 44 tractors. Hiring services are provided with drivers and sometimes other agricultural implements are attached. Comparatively, large-cale operations have been undertaken, almost covering the whole country, by the Field Wing under the General Manager (Field) and also by the Engineering Wing under the control of the Senior General Manager (Works). The field set-up of the said 2 Wings is outlined as follows:



Field Set-up of the Field Wing, PASSCO

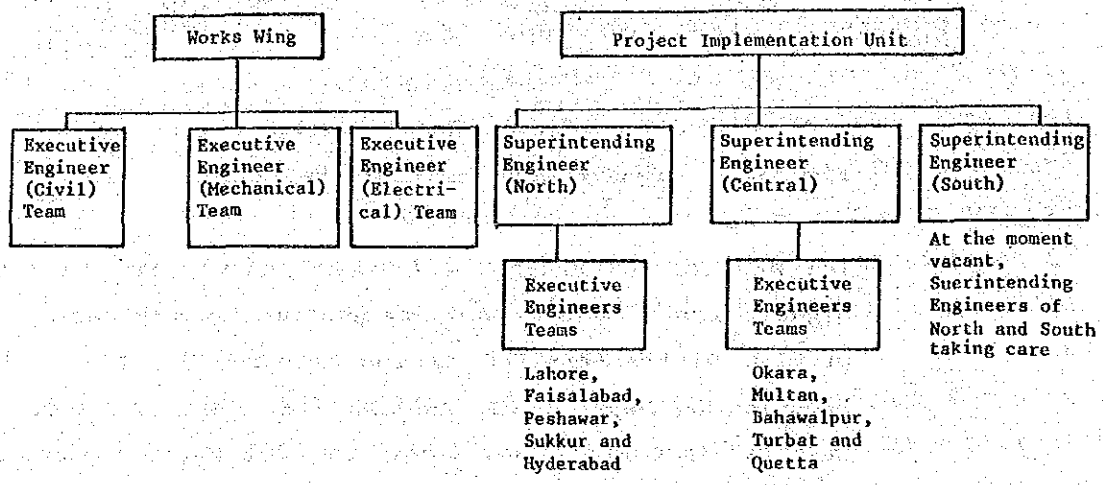


Fig. 3.26 Field Set-up of the Engineering Wing, PASSCO

The density of these field organizations is the highest in Punjab, limited in the developing stages in Sind, and low in both the Baluchistan and the North West Frontier Provinces.

The major activities carried out by the PASSCO, are (a) procurement at support prices, storage, processing, distribution and selling of specific agricultural produce, and (b) planning, design, construction supervision and transfer of the management of foodgrain storage facilities and equipment, excluding the hiring services of

agriculture machineries by the Machinery Wing. Among the specified agricultural commodities, wheat has been the first objective of the PASSCO's handling with regard to (a) mentioned above, Under the instruction of the Federal Government, wheat procurement was started in the Punjab Province, and afterwards in Baluchistan with the delegation of the Provincial Government. In case of the Punjab Province, the demarcation of wheat procurement areas has been established under the mutual agreement with the Provincial Food Dept. Wheat procurement in the Sind Province has not been implemented by the PASSCO. The funds required for the procurement are supplied by the Federal Government, in case of Punjab, and the procured wheat is distributed to the wheat deficit Provinces through the Food Depts. Field organizations to procure paddy/rice have been set up in the Sind and Baluchistan Provinces, being obligated to procure paddy at support prices, and to process and sell it to the Rice Export Corporation of Pakistan, Ltd. (RECP). (See Appendix E regarding detailed paddy procurement operations by the PASSCO). So far, paddy procurement in the Punjab Province has been small-scale. The procurement operations of agricultural produce, in which pulses, potatoes and onions are included under the instructions of the Federal Government as well as wheat and paddy/rice, are the responsibility of the Field Wing. On the contrary, above (b) has been carried out by the Engineering Wing, covering from planning, design, and supervision of construction, to maintenance of the foodgrain accommodation, which have been the most brisk in the Punjab Province. Field organizations of the Engineering Wing have no permanent office facility; during the construction period an area project office is set up, but after the completion it moves to the next objective area. Construction of foodgrain godowns has been also implemented under the instruction of the Federal Government. If financed with domestic funds, they would become the property of the PASSCO. In case of the World Bank projects in the Punjab,

Sind and the North West Frontier Provinces, the constructed godown would be turned over to the respective Food Depts. As for the agro-based units, the activities of the PASSCO have been rather invisible: almost all rice mills are at the contract basis with the private sector; Dal plants located at Lahore and Hyderabad have been shut down; and the cold storage facilities in Lahore show ill operational conditions.

2) Punjab Agricultural Development and Supplies Corporation (PAD & SC) and the Sind Agricultural Supplies Organization (SACO)

Either the Punjab or the Sind Provincial Government has an organization, attached to the agriculture department, put into operation to supply agricultural inputs such as seeds, fertilizers and pesticides. These are the Punjab Agricultural Development and Supplies Corporation (PAD & SC) in case of Punjab, and the Sind Agricultural Supplies Organization (SASO) in the Sind Province. Both are successors of the West Pakistan Agricultural Development Corporation (Federal agency) being active in the early 1960s and both came into existence in 1973, after the enactment of new provincial legislation.

The Board of Directors, composed of high-level Provincial Government officials from the agriculture, planning and finance departments, makes the final decisions inside both the entities. The executive head is the Managing Director, under whom the headquarters is constituted with several staff sections such as administration, planning, procurement, distribution, marketing, and finance and accounts. The headquarters are located at Lahore and at Karachi, respectively. All over the Province, field offices, sales points and storage facilities have been set up. If comparing both entities, the field organizations of the PAD & SC are more-densely developed. The field offices, sales depots of PAD & SC cover the Regional (= Division) level to the Tehsil or Markaz level, while the sales points of the SASO are located at only 3

places in one District.

The activities of the agricultural input supply are on a commercial basis. The PAD & SC or the SASO does not supply all the inputs required within the Province. The commission agents with permits and other ordinary enterprises without permissions have also been engaged in the supply of seeds, fertilizers, pesticides, etc. on a commercial basis. The growers who wish to purchase agricultural inputs from the PAD & SC or from the SASO, are requested to make bank deposits in the accounts beforehand.

As the better-organized field organizations are established, wider activities are observed with the PAD & SC. The presently supplied commodities include fertilizers, seeds, gypsum, pesticides, insecticides, weedicides, fungicides, agricultural implements, farm machineries and tractors and even spare-parts for these machine. On the other hand, the SASO only handles seeds and fertilizers. The difference of input supply conditions, which would greatly influence the agricultural production between the two Provinces, shows clearly that with the agricultural progressiveness and with the economic conditions of the growers.

3) Punjab Seed Corporation (PSC) and the Sind Seed Corporation (SSC)

The supply of seeds was carried out by the West Pakistan Agricultural Development Corporation (Federal agency), in the same way as that of other agricultural inputs, up to the early 1970s. Since the quality of seeds was problematic and the necessity to improve the seed multiplication process were admitted, new projects to establish seed industries were implemented in both the Punjab and Sind Provinces with the funds from the World Bank. In this consequence, the Punjab Seed Corporation (PSC) and the Sind Seed Corporation (SSC) were formed in the year 1976 under the provisions of the newly-framed

Provincial Acts. Either belongs to the Provincial agriculture department.

The PSC, with its headquarters located at Lahore, operates 3 processing plants in Sahiwal, Khanewal and R.Y. Kahn. In the vicinity of the Khanewal Processing Plant, a seed farm of 6,000 acres is operational. Inside the headquarters, the Managing Director superintends such sections as seed procurement, farm, processing, marketing, works and finance. The Board of Directors consisting of high-level Provincial Government officials is the final decision-maker. The organizational structure of the headquarters of the SSC is almost equivalent; however, it has only seed processing plant at Sakrand, and the farms under the direct management are small-scale.

The supplying capacity of either the PSC or the SSC only covers a portion of seed demand inside the Province. Activities correspond to the stages of pre-basic seeds, basic seeds, and certified seeds, which are almost similar in both the PSC and the SSC. Pre-basic seeds are supplied from the Research Wing of the Provincial agriculture department. Multiplication of certified seeds is entrusted to the contracted (registered) growers and after the harvesting, seeds are procured by the Corporation. At the final stage, the certified seeds are processed in plants; then supplied through sales channels as an approved seed. At each stage, the minute inspections have been vigorously carried out by the Federal Seed Certification Dept., the field offices of which are usually located in the neighbouring places of the processing plants.

As for the breeder of pre-basic seeds of paddy, the Rice Research Institute (at Kala Shah Kaku in case of Punjab, and at Dokri in case of Sind) has played an exclusive role.

(6) Role of the private sector

The most important role of the private sector at the post-harvest stage of paddy/rice is the function of paddy collection/processing. After harvesting, paddy excluding the portion for home consumption, is brought to the paddy market by the growers or through the several kinds of traders, finally falling in the hands of authorized rice dealers/rice millers to process into milled rice. Milled rice is then either procured by the Provincial Food Dept. for export purposes or appropriated for domestic consumption. Rice mills in Pakistan are, except for several large-scale modern mills, few in the public sector. Almost all are private-owned enterprises. In case of paddy/rice traders, they are, either authorized or not authorized, all under private management. The paddy/rice marketing system has been around for a long time. Without a complex of functions in the private sector, the rice procurement for export would be impossible. (The procedure of procurement of milled rice is mentioned in the first part of 3.5.4) Among the rice traders/rice millers, voluntary organizations have been formed to protect their own interests. The following are the examples of these associations:

All Pakistan Superior Rice Dealers Organization
(Main office: Kamoke, Punjab)

Sind Rice Millers and Traders Group
(Main office: Larkana, Sind)

Mechanical harvesting operations have been just started for paddy/rice in Pakistan. Besides the machinery suppliers, the lease services of harvesting machineries are provided, with hourly rates, by the private sector. At the moment, the example is found by the National Agro Services Ltd., with the head office at Lahore, in possession of around 90 large combine harvesters. The private sector is ahead of the public agencies in which the practical use of harvesting machineries is still in the testing stage. (It is reported that a private firm is preparing the same kind of leasing service around Tando Jam, Sind).

(7) Establishment of farmers' cooperatives

Cooperatives are called "Cooperative Societies". The already instituted Cooperative Societies amount to nearly 59,000 all over Pakistan. The number in the Punjab Province is large with an average of 2 to 3 Societies in each village. The establishment of Cooperative Societies is under the registration system, requiring permission from the Provincial Cooperative Dept. (The obligations of the Cooperative Dept. include promotion, registration control and coordination for cooperative movement, especially the liaison with the Federal Government.) The filled-up application forms should be submitted to the Cooperative Dept., in order to establish a Cooperative Society.

Cooperative Societies are basically classified into 2 types; central non-credit Societies located at the Provincial capital and primary institutions at the village level. Village level primary institutions are the tools to accept credits, and further divided into the following, based on the credit purposes:

- ° Agriculture Credit Societies
- ° Development Societies
- ° Farming Societies
- ° Service Societies
- ° Multi-purpose Societies
- ° Dairy Farming Societies
- ° Tube-well Societies
- ° Livestock Societies
- ° Housing Societies
- ° Consumer Stores

The Agriculture Credit Societies are the most frequent, occupying almost half of the existing Societies over Pakistan. Once the primary institutions are constituted, the secondary organizations covering the Union Council, Markez, Tehsil, and the District, in proportion to the wider area, for the purpose of ensuring the uniformity of operations. The secondary organizations coordinate the primary institutions and

provide the required services. The central non-credit Societies mentioned above stand at the crest of these secondary organizations.

The Agriculture Credit Society, almost equivalent to the Farmers' Cooperative, has a primary function to supply its members (small-scale farmers) with fertilizers, pesticides, seeds, agricultural implements, etc., on the basis of providing interest-free credits. The repayment of credits is guaranteed by the Society, with some specific conditions. Eligibility to become members of the Society is not especially specified, being a land owner or a tenant belonging to the agricultural community and the possession of dwellings inside the village suffice for an application.

The Cooperative Society Office is manned with a Director and a Secretary, both of whom are appointed by the Managing Committee consisting of the President, Vice-president, Cashier and members not more than 21 persons. This organizational structure is unform all over the country.

The "National Scheme for Co-operative Farming" has been in progress in all the four Provinces, and 21 large cooperative farms, where crops are being sown and harvested cooperatively, have so far registered. However, except for these large-scale farms, cooperative production efforts, have been slow, as almost half of the Cooperative Societies are credit institutions. The reason might lie in the custom to accommodate the idle labourers inside the traditional agricultural community thereby making cooperation for the single purpose of production unnecessary. As a consequence, the cooperation from production aspect has been so minor in the activities of the Cooperative Societies in Pakistan.

Moreover, roles of the Cooperative Societies have scarcely extended over the marketing aspect of agricultural produce. When the promotion of Cooperative Societies was first started, marketing functions were involved to some extent. For example, cooperative shops supplied agricultural products under the direct management, or participated in market transactions as

functionaries. These marketing functions, however, have blown out with the development of commercial mechanism in the private sector. At this time such functions remain only in exceptional Societies.

Thus for, the farmers' cooperatives in Pakistan have strong characteristic as a tool to accept credit facilities. It might be concluded that they lack positive attitudes towards the enlargement of production activities by the cooperation, neither towards the contribution to marketing improvement.

3.5.2 Pricing Policy

Judiciously formulated and effectively implemented agricultural price policy cannot only stabilize farmers' income and induce them to expand production, but also promote balanced development of the agricultural sector as a whole. This is the official point of view of the Central Government of Pakistan. To yield its full potential, the price policy has to be conceived in the context of overall economic policy and the objectives have to be clearly defined in relation to the total national development needs. The objectives of the price policy are enumerated below.

(1) To increase the production of particular crops to meet domestic demand.

(2) To promote cultivation of crops whose output could earn or save foreign exchange.

(3) To evolve a balanced cropping pattern for long-run maximization of value-added in the agriculture sector.

(4) To ensure a reasonable income level of farmers.

(5) To stabilize agricultural prices by moderating annual or seasonal fluctuations.

(6) To promote adoption of high-yielding inputs needing capital investment, such as fertilizers, improved seeds, pesticides and installation of tubewells.

(7) To balance the terms of trade between agriculture and other sectors.

(8) To correct market imperfection derived from excessive competition and other factors.

(9) To narrow the gap between urban and rural incomes, especially to reduce migration from rural to urban areas.

(10) To prevent a rise in the general price-level, to control inflation.

Some objectives would be apt to conflict with others, in which case the aim should be to minimize the areas of conflict and harmonize such objectives as much as possible.

With the intention mentioned above, the support price of agricultural produce which indicate the minimum price level to be ensured to growers have been annually reviewed and revised since the year of 1977 onward. The determination of support prices requires a rational and scientific basis; then announcement of support prices has been made before the sowing time of each crop. The commodities to which support prices are established are limited to major agricultural crops. The fixed price is applied in the government procurement after the announcement. The coverage of the support price system, being foodgrains especially wheat at first, has been expanded. At the moment, are established to the following:

wheat, rice, cotton, sugarcane, rape seed, mustard seed, non-traditional oilseeds such as sunflower, safflower and soy-bean, maize, potatoes, onions, ground nut, lentil and gram

The support price is established for paddy as well as for rice. Besides these agricultural commodities, the major agricultural inputs such as fertilizers, pesticides, high-quality seeds, etc. decisively influence crop yields and production levels are also covered by the pricing system.

The final-decision of support prices for agricultural produce and issue prices of major agricultural inputs are the Case to be disposed by the Cabinet of the Federal Government. In practice, the drafts are determined at the meeting of Ministers relative to agriculture and economics, in consultation with the Provincial Governments and the private sector, in order to bring up to the Cabinet.

The entity playing an important role in formulating agricultural pricing policy and in fixing support prices, is the Agricultural Prices Commission (APCOM) which has been active since 1981, affiliated with the Federal Ministry of Food, Agriculture and Cooperatives. The APCOM performs the following functions:

- To advise on the policy of wheat, rice, maize, cotton, sugarcone, oilseeds, potatoes, onions and such other commodities as the Government may specify from time to time.
- To advise on the issue price to farmers of fertilizers, pesticides, quality seeds and such other inputs as the Government may specify from time to time, keeping in view the needs to phase out subsides on these.
- To suggest such non-price measures as would facilitate achievement of the objectives of the agricultural price policy.
- To advise on measures to reduce cost of marketing of inputs and products and to recommend fair margins for different stages of the marketing chain.
- To advise on any problem relating to agriculture prices and production which may be referred to it by the Government.
- To advise the Government on the measures to make the price policy effective by removing deficiencies and inefficiencies of marketing, processing, storage, handling and transportation of agricultural commodities.
- To promote, carry out and review:
  - (a) studies relating to price policy,
  - (b) efforts for collection and analysis of information (farm surveys) on agricultural activities.

While recommending the price policy and the relative price structure, the APCOM takes into account the cost of production of various crops in different ecolegical zones and keep in view the objectives of the agricultural price policy and other factors.

The head of the APCOM is called the Chairman, to which a distinguished economist with extensive background of agricultural planning and economic analysis would be appointed. The Commission consists of two other members, with the staff of around 25 persons divided into the sections of administration, farm-production economics, agricultural products, agricultural inputs and agronomy, statistics and library. Located at Ishamabad, the APCOM has no field organization. Accordingly, keeping up the fixed agricultural prices is the duties of other agencies, either the Federal or the Provincial Governments.

Finally, the trend of paddy/rice support prices in Pakistan is shown below for reference.

Table 3.42 Support Price of Paddy/Rice

Unit: Rs/40 kg

Item/Variety	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86
I. Paddy						
1. Basmati (White)	75/02	85/-	88/-	90/-	90/-	93/-
2. IRRI-6/KS-282 (Premium)	38/58	49/-	53/-	55/-	55/-	57/-
3. IRRI-6/KS-282 (FAQ)	-	45/- (Sind)	-	51/-	51/-	53/-
II. Rice						
1. Basmati (White)	137/-	150/-	154/-	160/-	160/-	175/-
2. Basmati (Sela)	-	-	-	-	170/-	160/-
3. IRRI-6/KS-282 (Premium)	72/-	83/-	89/-	92/-	92/-	95/-
4. IRRI-6/KS-282 (FAQ)	-	-	-	83/-	83/-	86/50

Source: Secretariat, Food Dept., Punjab

3.5.3 Supporting Services

(1) Credit facilities and financial institutions

Agricultural credit system in Pakistan is classified into 3 types; namely, those provided by the following 3 banking organs:

- Commercial banks, including 5 nationalized banks (47% of share in the total institutional credits from actual accomplishments in the fiscal year of 1983 - 84)
- Agricultural Development Bank of Pakistan (ADBP) (36% of share in the same fiscal year as above)
- Federal Bank for Cooperatives (17% of share in the same fiscal year)

Of these, the credit facilities from the commercial banks have no specific purpose for agriculture, and it is difficult to describe general features, varying according to the management policy of banks, location and so forth. Lending conditions such as interest rate (usually between 12 and 13%) and repayment period are determined in various manners. However, it is indicated that commercial banks have played a crucial role in financing agricultural development. Five nationalized commercial banks are composed of the National Bank of Pakistan; Habib Bank, Ltd.; United Bank, Ltd.; Muslem Commercial Bank; and the Allied Bank of Pakistan.

The ADBP is a specialized credit institution relative to agriculture, established under the joint equity participation of the State Bank of Pakistan (centeral bank in Pakistan, 98.5% of shareholding), 4 Provincial Governments (total equity: Rs.5,000,000) and others. The head office is located at Islamabad, and regional offices and branch offices are spread over the country. The credit facilities from the ADBP include the following types:

General credits

This system is a direct lending to farmers. Interest rate is 11% regardless of either input loans or the fixed

agricultural investment. In case of input loans up to Rs.5,000, interest rate would be rebated to 10% if repayment is made within 2 months from harvesting. 80% is made up of the Supervised Credit System in which frequent talks with farmers are maintained by the Mobil Credit Officers driving motor-cycles.

Project loans (to agri-business)

This type of loan is for entrepreneurs of agri-business projects. Project areas cover milk plants, agro livestock farms, manufacturing of agricultural implements, edible oil mill, fruit juice processing, feed mills, etc.; every kind of industrial activities relating to agriculture. Rice shellers are also included. Interest rate is 12%.

According to an accomplishment report of ADBP credits for the fiscal year 1984 - 85 (as of June 1985), general credits amounted to 93.8% of total ADBP lending (of which, short-term credit claimed 20.3% and medium- and long-term advancement constituted 73.5%). Around 65% of borrowers are small farmers with land holding below 25 acres. Number of projects financed by the ADBP loans in the same fiscal year, was 119, contributing with 6.2% to the total lending of the Bank. It is noted that 6 godown projects, 9 cold storages, 1 seed processing plant, 1 rice par-boiling mill and 1 rice sheller were included in the lending. Geographical distribution of ADBP credits in the same fiscal year shows Punjab Province accepted 62% and Sind Province 24.6%.

The Federal Bank for Cooperatives, a wing of the State Bank of Pakistan, does not provide loans directly to the farmers. The funds are held out to the Provincial Cooperative Banks established by the respective Provincial Governments. The Provincial Cooperative Bank finances the Agriculture Credit Societies through its branch offices throughout the Province, under the allocation scheduled in the deliberation between the Cooperative Dept. and the head office of the Provincial Cooperative Bank. Cash is not delivered directly to the hand of farmers, as the Credit Society receives the credited funds from

the Provincial Cooperative Bank, supplies the agricultural inputs, and collects the bills of inputs as repayments. Province-wise allocation amount of the credits is determined by the Federal Bank for Cooperatives. Credits through the Cooperative Societies are classified into the following 2 types:

Short-term loans

With the repayment conditions of 6 months, the credits would be utilized for the purchase of agricultural inputs such as fertilizers, pesticides, seeds and diesel fuel for tractors. As the inputs are supplied in the beginning of crop season and the money recovered after the harvesting time, this credit facility is called "crop loans". Interest-free.

Medium-term loans

This is the credit for purchasing agriculture machineries, such as tractors, threshers and trolleys. The purchased machines are delivered through the Cooperative Societies, for which some corporations have been established at Provincial capitals, with the equity contribution of each Cooperative Society. (Example: The National Cooperative Supply Cooperation, Ltd., Lahore). Also, interest-free.

The majority of the credit through the Cooperative Society have been short-term loans; the medium-term loan system has just commenced. Medium- and long-term credits related to agriculture have been provided by the ADBP or commercial banks in Pakistan, not through the Cooperative Society. Direct lending to corporations is also carried out by the Federal Bank for Cooperatives, an example of which is found in the case of marketing-related fields, the Agricultural Marketing and Storage Ltd. (Rs.9,400,000 of medium-term loans were forwarded in the fiscal year of 1982 - 83.)

(2) Agricultural subsidies

The agricultural policy of the Federal Government is considered to be a package of the following measures:

- To subsidize essential agricultural inputs.
- To fix support prices for some of the major crops.
- To provide credit facilities to farmers.
- To encourage local manufacture of agriculture machinery and implements.
- To facilitate joint-ventures in assembly and production of tractors.
- To make available adequate quantities of fertilizers, quality seeds, pesticides, etc.

As enumerated at first, the subsidies to agricultural inputs form one factor of the back-bone in the agricultural administration in Pakistan. Such agricultural inputs include fertilizers, pesticides, seeds and others; however, agricultural implements are excluded from the subsidized items.

As mentioned in the previous Section 3.5.2, pricing policy is applied to fertilizers, pesticides and seeds, and the issue prices to the farmers have been fixed by the Government. This fixed prices should be ensured even if the Government procures these input materials at a higher price. The difference between the procurement price and the issue price would have to be born by the Government. If producers are domestic companies, the Government actually should provide the subsidies to lower production prices against the fixed issue prices. In this consequence, the agricultural price policy and the subsidizing policy have a close relationship with each other.

Mentioned previously also, the APCOM has been requested to review issue prices of agricultural inputs, with a view to reduce the provided subsidies. The amount of agricultural subsides has been contextually decreasing; fertilizer subsidies amounted to Rs.880,000,000 for the 5th National Development Plan (1978 - 83) but those in the present 6th National Development Plan are provided with the funds of Rs.300,000,000; corresponding to nearly 66% decrease.

Though the purchasing agricultural implements/machinery has not been the objective to subsidize, subsidies have been given to