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AND

Experience Incorporated,

U.S.A.

MARKETING OF FARM PRODUCTS  
AND FARM INPUTS IN 'DARANI'  
PUNJAB AND NWFP

by

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## P R E F A C E

The present report on "Marketing of Farm Products and Inputs in Barani areas of Punjab and N.W.F.P" marks the culmination of an important contractual research assignment made to the Economic Research Institute in July/August 1978 under the Agency for Barani Agricultural Development/US AID sponsored 'Barani' Development Project.

The need for studying the existing marketing system both for the farm products and agricultural inputs in 'barani' areas was felt in view of the growing importance of developing marketing infrastructure for raising farm productivity in these regions. 'Barani' or rain-fed areas constitute a major segment of the agricultural economies of the Punjab and NWFP. These areas have different economic priorities in comparison with the irrigated areas of these two provinces. As such, the strategy for agricultural development in 'barani' areas is somewhat different from that of irrigated areas. New projects for increasing agricultural production in these areas are to be launched by the Government for which detailed empirical evidence on the marketing of farm products and inputs is an essential pre-requisite. The present study was directed to generate the required information and subject it to scientific analysis so that results so derived could form the basis of development programme formulation.

The study has been carried out under the supervision of our Research Economist and presently Chief of the Institute's Agricultural Research Faculty, Mr. Manzoor Ali, who has demonstrated in this study his ability to handle a difficult socio-economic subject. The final output in the shape of this report is the result of his conscientious performance and hard work. In this task he was assisted by Mr. M.A. Cheema, Staff Economist of the same Faculty, whose assistance has been greatly beneficial and is appreciated. While working on the study, the Institute's research staff members, namely, Messrs. M.A. Cheema and Tahir Shahbaz handled the data collection work in the Punjab, whereas similar work was carried out in the N.W.F.P. by the 'Barani Project' personnel and its advisory staff. The assistance extended by Mr. Ateeque Ahmad, a member of the Advisory Staff, who spent several months in the Institute while the study was being carried out and participated in the collection and processing of data and functioned as Field Survey Co-ordinator of the survey teams deserves special commendation. The assistance provided by Mr. Khadim Hussain, Secretary Market Committee, Chakwal to the survey team in organizing field survey and establishing rapport with the dealer and farmer respondents in the study area is also highly appreciated.

The valuable advice and guidance provided by Dr. C.J. Miller at different stages has been greatly useful in successful completion of this study.

Finally, the hard work put in specially by our Jr. Steno, Mr. Azhar Ali Shah, in typing various drafts of this study and also the assistance provided in the typing work by other members of our typing staff, namely, Messrs. Mohammad Usman Siddiqui, Javed Iqbal, Mohammad Yousaf Cheema and Abdul Jaleel is duly appreciated.

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(Dr. Dilawar Ali Khan)  
Director and  
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# C H A P T E R - I

## I N T R O D U C T I O N

The impact of marketing as a dynamic force in enhancing farm output and productivity, minimizing the food gap, and also in distributing gains from increased production has been well demonstrated in the more advanced economies of the world. 'Market-incentive' has been argued as one of the essentials for agricultural development, because the farmer's incentive to produce more would depend chiefly on what the market would pay him for his farm produce.

Thus production and the productivity potential of the agricultural sector can be better exploited under improved marketing network. An efficient marketing system with an adequately responsive pricing policy can induce more production through increased efficiency in resource mobilization and use. Therefore, ignoring the contribution of marketing in improving farm planning, resource allocation, and capital generating capacity at the farm level can engender negative effects on production increases.

The importance of agriculture in Pakistan's economy can not be over emphasised. Agriculture is still a dominant sector and major contributor to the G.D.P. However, despite the complimentarity of marketing in the context of agricultural development, the

marketing system in the country is still traditional, incapable of properly handling increased production and providing further incentive to growers. One of the major factors has been that the public policies and programmes have mainly been 'production-oriented' basically biased towards technological reforms in farming with the objective of feeding the fast growing population\* under subsistence farming conditions.\*\* As a result of a disproportionate emphasis, the development of the marketing infrastructure and the marketing institutions has received very little attention

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\* The accelerated urbanization rate during the past decade has also placed a heavy demand for food supply for city dwellers, besides feeding the non-farming sector of rural economy. The distribution system, therefore, must be capable of maintaining food supplies to both sectors of the population.

\*\* Those advocating public policies directed to fostering conditions favourable for an enhanced productivity level and aggregate production argue that subsistence farming generates a limited marketable surplus which does not call for vigorous efforts for the development of marketing infrastructure. This may be true at the micro-level e.g., very small sized farms that engender little or no surplus for the market, particularly of foodgrains like wheat and maize. This thesis, however, does not hold good in the case of other farm size categories and crops like cotton, sugarcane, rice, potatoes, and onion. Because, the recent seed-fertilizer technology alongwith other important components of this technology package has resulted in improving, if not revolutionizing, productivity at the farm level and enhancing aggregate production. Seasonal periodic food surpluses, losses under inadequate storage arrangements with the public sector and private enterprises during the peak marketing season, and lack of adequate transport facilities needed for handling regional surpluses resulting in shipment losses are some of the obvious evidences of the quantum of marketable (food) surpluses flowing to the market even under subsistence agriculture. This makes the efforts for realizing the importance of an appropriate marketing infrastructure more relevant and worth consideration.

by public policy planners. This has impeded the results anticipated from technological reforms and added to the existing problems of market imperfections, market price instability, inadequate transport, storage, grading/standardization, livestock markets and processing industries. Further shift is, therefore, needed in public policies to recognizing the role of marketing in order to develop a 'market-oriented' <sup>1/</sup> economy.

The 'barani' areas in the Punjab and N.W.F.P. constitute an important component of the total agricultural base of the two provinces. This is evident from the fact that 54 per cent of the total reported area and 43 per cent of the farm units in the province of Punjab are totally or partially rainfed. About 39 per cent of the total cropping is being undertaken under 'barani' conditions which accounts for approximately 36 per cent of the total agricultural production in the province of Punjab. Similarly, the economy of N.W.F.P. province is dominated by 'barani' agriculture, as 55 per cent of the farm area in this province is rainfed and the contribution of

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<sup>1/</sup> For example, see, A.T. Mosher, Getting Agriculture Moving, (Newyork: Frederick A. Praeger, Publishers, 1966); R.L.Kohls, Marketing of Agricultural Products (Newyork: The Macmillan Company, 1967); USDA, Changes in Agriculture of 26 Developing nations, 1948-63, (Washington D.C.: USDA, 1965); J.C. Abbot, Marketing - Its Role in Increasing Productivity, F.A.O. F.F.H.C. Studies No: 4 (Rome; Food and Agricultural Organization of The United Nations, 1967); F.A.O., Marketing - A Dynamic Force in Agricultural Development, World Food Problems. No:10 (Rome: FAO, 1970); Abdur Rashid, The State of Agricultural Marketing in Pakistan. (Lyallpur: West Pakistan Agricultural University Press, 1969).

'barani' lands to the total provincial agricultural production is about 12 per cent.

Recognizing this importance, the Government of Pakistan initiated new projects for the development of 'barani' areas to enhance the total production particularly that of foodgrains. The additional production would, however, require increased marketing facilities. Therefore, the important contribution of an improved marketing system in handling the increased agri.production and in providing an incentive for further production increase suggests that an improvement in marketing services is of crucial importance in the context of 'barani' agricultural development.

Need for the Study:- Considering the importance of marketing in agricultural development, need was felt to study the existing marketing system both for the farm products and agricultural inputs in 'barani' areas and suggest policy measures for the development of marketing infrastructure needed for raising farm productivity in these regions. The present study is an attempt in this direction.

The focus of this study is essentially on the marketing of farm produce and the channels through

which the farm surpluses move from the producer to the final consumer. Quantum of production and marketable surplus with various farm and family size categories, production incentives needed and the existing factors limiting production, credit needs and marketing improvement aspects also formed part of the subject of this study. The study also examines the existing marketing infrastructure, and the role of the marketing middleman in the marketing process.

Objectives:- The specific objectives of the study were to examine:

- Principal elements, pattern and practices of marketing farm products of both the farmers and dealers and farm inputs of farmers with special emphasis on the study of marketing channels for major crops, and farm/market price structure.
- Existing marketing infrastructure (markets, roads, storage, transportation, market information) to provide baseline data for studying future changes in the marketing system in 'barani' areas.
- Farmers and dealers marketing/business problems, examining their impact and suggesting improvements for alleviating such problems within a feasibility framework.

#### RESEARCH METHODOLOGY AND SCOPE

##### Sampling Design:-

According to the research plan, the sample consisted of (a) 'barani' markets; (b) dealers operating in these markets; and (c) farmers located in the villages that feed these markets, in both the provinces under study.

The selection of sample markets, and villages was made stepwise, and separately in each province. The selection procedure followed according to the finally settled sampling plan, after the pretesting of the questionnaire, is described below:

A. Punjab

1. Selection of Markets:- Two markets, namely, the grain market Chakwal and the sub-market Dhudial in Jhelum District were selected for study from the Punjab province. These markets/'mandies' were selected keeping in view the level of business activity and giving due representation to the crop production and the marketing patterns obtaining in the 'barani' Punjab.

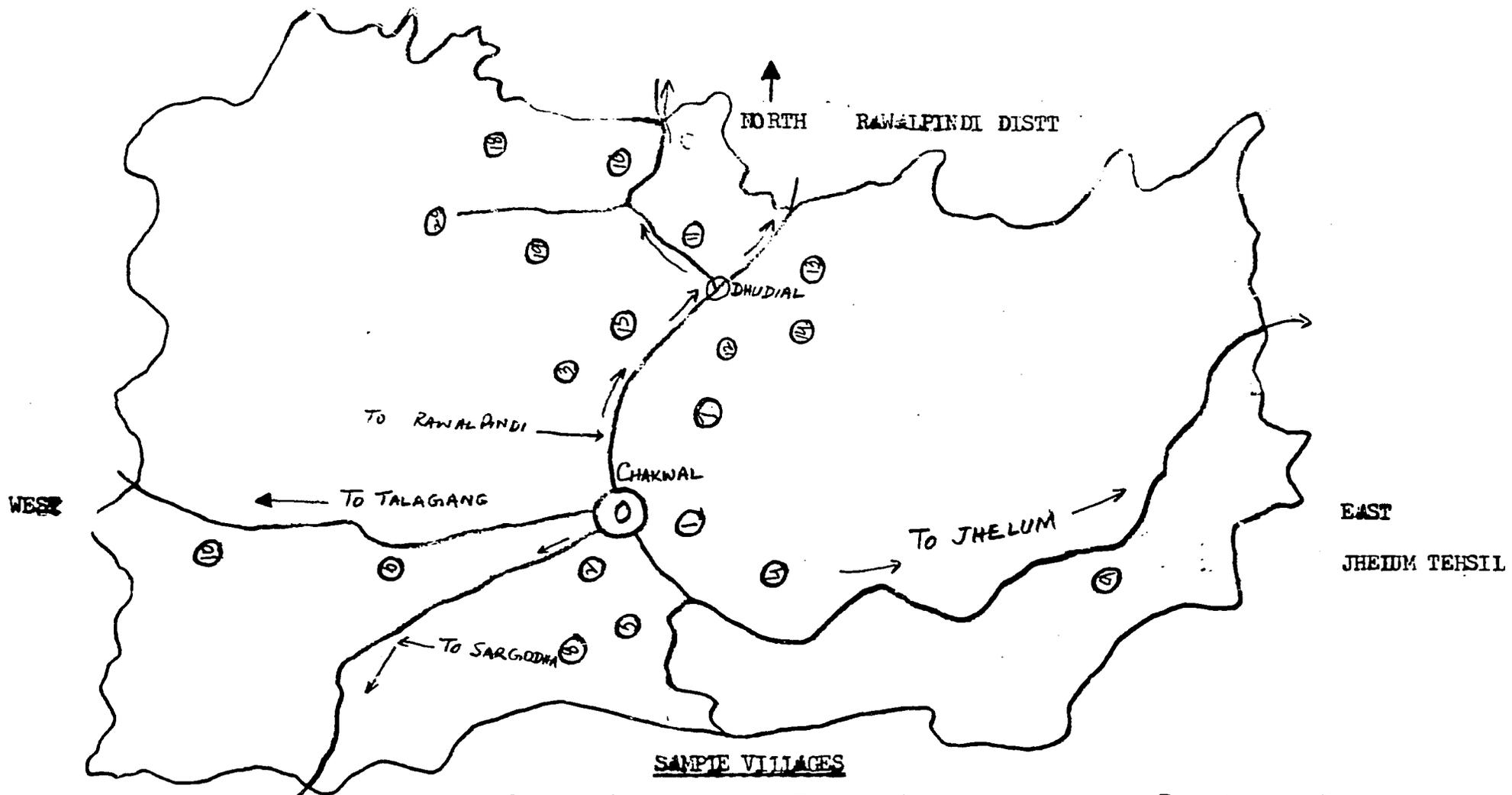
2. Selection of Villages:- The feeding area of grain market Chakwal was stratified into three concentric radii, i.e. 0-5, 5-10 and above 10 miles from the market place. For the Dhudial market, that has a relatively smaller feeding area, only two zones (0-5 and 5-10 miles) were used. This zoning was done in order to ascertain the influence of factors like the road type and distance on price formation, marketing and transport charges, and the marketing behaviour of both the farmers and the dealers. The villages falling in

these zones were separately listed for the two markets. Ten villages, about three from each concentric circle in Chakwal and 5 from each concentric circle in Dhudial, were selected through a systematic 'random sampling technique', giving a total of 20 sample villages for the two market places. While making the village selection, effort was made to give proportionate representation to the villages linked by both 'kacha' and 'pacca' roads. Illustration 1.1 indicates the location of sample villages selected in the Chakwal and Dhudial market areas.

3. Selection of Farmer's Sample\*:- The farmer's sample was selected with the help of key village informants, mainly the 'Numberdar' and local officials. The sample selection was made through random sampling technique by listing the farm households in the sample villages. Ten farmers, almost equally distributed in

---

\* Farmers with cultivated land area upto 100 kanals (12.5 acres) were considered small, while those with holdings of more than 100 kanals were taken as large for the purpose of this study. Furthermore, cultivated farm land, instead of total farm area, was used as the basis for stratification, because quite a large proportion of the farm area was reported as uncultivated on different sized category farms.



SOUTH  
PIND DADANKHAI TEHSIL

- Chakwal Area
1. Jabairpur
  2. Dhulal
  3. Dhab Katan
  4. Chakral
  5. Karyala
  6. Mureed
  7. Chak Neurang
  8. Shamsabad
  9. Khanpur
  10. Balkasar

- Dhudial Area
11. Fim Kassar
  12. Dama
  13. Miswal
  14. Jhaley
  15. Dhok Wadhan
  16. Jaithal
  17. Sarkal Kassar
  18. Sakriala
  19. Rawalbala
  20. Mangwal

Illustration No: 1.1.  
MAP OF CHAKWAL TEHSIL (Punjab)

the  
the size category of upto 100 kanals of farm land and the size category of larger than 100 kanals were selected as respondents from each village.

4. Selection of Dealer's Sample<sup>\*</sup>:- For selection of the dealer sample in Chakwal market, a survey of the market premises was undertaken. Every third shop starting from the right corner of the main entrance, and proceeding in a counterclockwise direction was then randomly selected. In all, 16 dealers were selected from this market.

In Dhudial market, about 30 shopkeepers were found dealing in agricultural commodities, but only 16 of them were handling a reasonably volume of wholesale + 'karyana' business. All of these 16 dealers were included in the sample.

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\* In the case of market dealers, those handling up to 5000 maunds of different commodities during the business year were considered as small, while those handling more than 5000 maunds were taken as large.

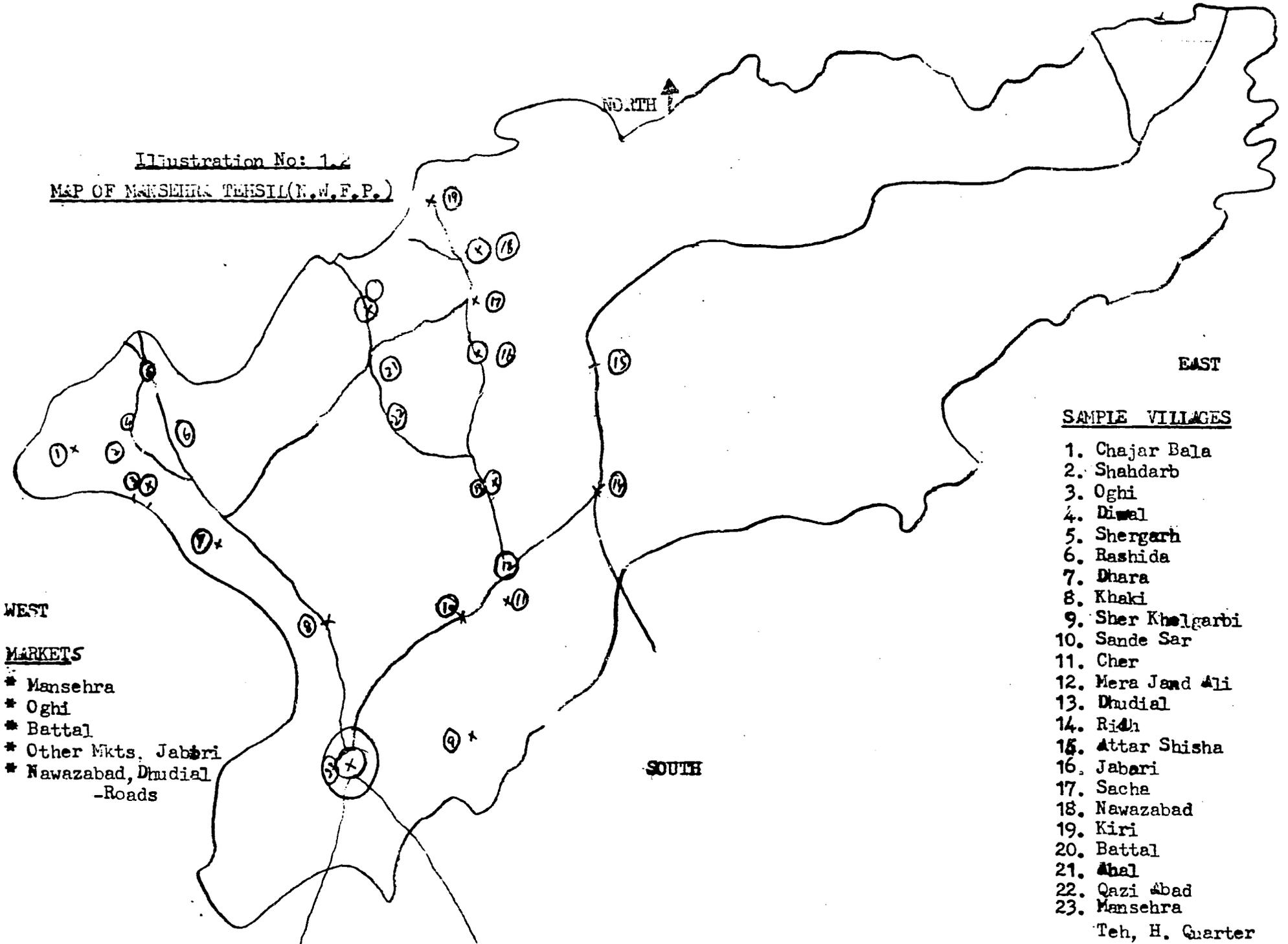
B. N. W. F. P.

1. Selection of Markets:- In the North Western Frontier Province, we selected the Mansehra market as it is considered to be well representative of the cropping mix and the marketing pattern of the 'barani' areas in this province. Additionally, places like Oghi and Battal, that exhibited relatively larger farm product assembly activities and were located in the feeding area of Mansehra market, were taken to represent the 'primary markets' and thus also were included in this study.

2. Selection of Sample Villages:- Some limitations were faced in selection of villages in this area when attempting the procedure followed in the case of Punjab. The hinter-land around the selected market places could not be easily stratified into three concentric radii as used in Punjab, mainly on account of a lower density of agricultural production, and non-availability of the required number of pure 'barani' villages, and farmers with an adequate volume of marketable surplus within the planned distances. The village sample selection, therefore, had to be made without following a standardized approach. Villages located on different link roads connecting the settlers in the hinter-land with the Mansehra market like Balakot, Oghi, and ~~Battal~~ Battal routes had to be considered for drawing the sample. For this purpose, lists of villages located on

Illustration No: 1.2

MAP OF MANSEHRA TEHSIL (N.W.F.P.)



WEST

EAST

SOUTH

MARKETS

- \* Mansehra
- \* Oghi
- \* Battal
- \* Other Mkts. Jabari
- \* Nawazabad, Dindial
- Roads

SAMPLE VILLAGES

1. Chajar Bala
  2. Shahdarb
  3. Oghi
  4. Dindial
  5. Shergarh
  6. Rashida
  7. Dhara
  8. Khaki
  9. Sher Kholgarbi
  10. Sande Sar
  11. Cher
  12. Mera Jand Ali
  13. Dindial
  14. Ridi
  15. Attar Shisha
  16. Jabari
  17. Sacha
  18. Nawazabad
  19. Kiri
  20. Battal
  21. Ahal
  22. Qazi Abad
  23. Mansehra
- Teh, H. Quarter

all of these routes were prepared separately with the help of local field staff of the Agriculture Department. After some preliminary scrutiny, 22 villages were finally selected. The villages included in the sample were reported to have adequate production volume under rainfed conditions and were generating some surpluses for Mansehra and the primary markets.

3. Selection of Farmer's Sample:- After the selection of sample villages, 4-6 farmers with an adequate marketable surplus, both from the small and large size categories, were identified from each of the selected villages with the help of key informants. From this list, 1-3 farmers per village were then selected randomly. In all, 35 farmers were selected from 22 sample villages.

4. Selection of Dealer Sample\*:- Mansehra market is located in an area that generates a limited marketable surplus at the farm level. Difficult access to the hinterland around Mansehra market also inhibits the easy flow of marketable surplus to the market place. Under these circumstances only economically sound marketing enterprises could handle assembly-distribution

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\* Due to lower business volume handled by village dealers, the dealers handling commodities upto 600 mds. were considered small, and the rest as large. The analysis of business activities of these dealers has been made on the basis of this stratification.

of farm products. This has given rise to a monopsonistic situation in the market under study. Consequently, only two big marketing agents were found handling the whole marketable surplus reaching Mansehra market. Seasonal 'beoparies' usually operating on behalf of the big dealers, and/or the village shopkeepers/dealers were the major entities assembling farm produce from the hinterland around the Mansehra market. Additionally, about 40 city retail shops were also found assembling farm produce in small quantities in exchange of goods sold to the farmers. The farm products thus assembled were also finally channelled through these two big marketing agents. In view of this peculiar market structure, the required dealer sample was taken from two types of dealers. (a) The two big marketing agents located in Mansehra market and, (b) The village shopkeepers/'beoparies' operating on seasonal basis in the sample villages. Accordingly, the largest marketing agent of Mansehra market who controlled about 70 to 80 per cent of the business was included in the sample. Seventeen village shopkeepers/'beoparies' randomly selected from the 'beoparies' listed with the help of farmers of sample villages were also included in the sample.

Illustration 1.3 shows the route-wise position of farmers and the dealers sample. (N.W.F.P.)

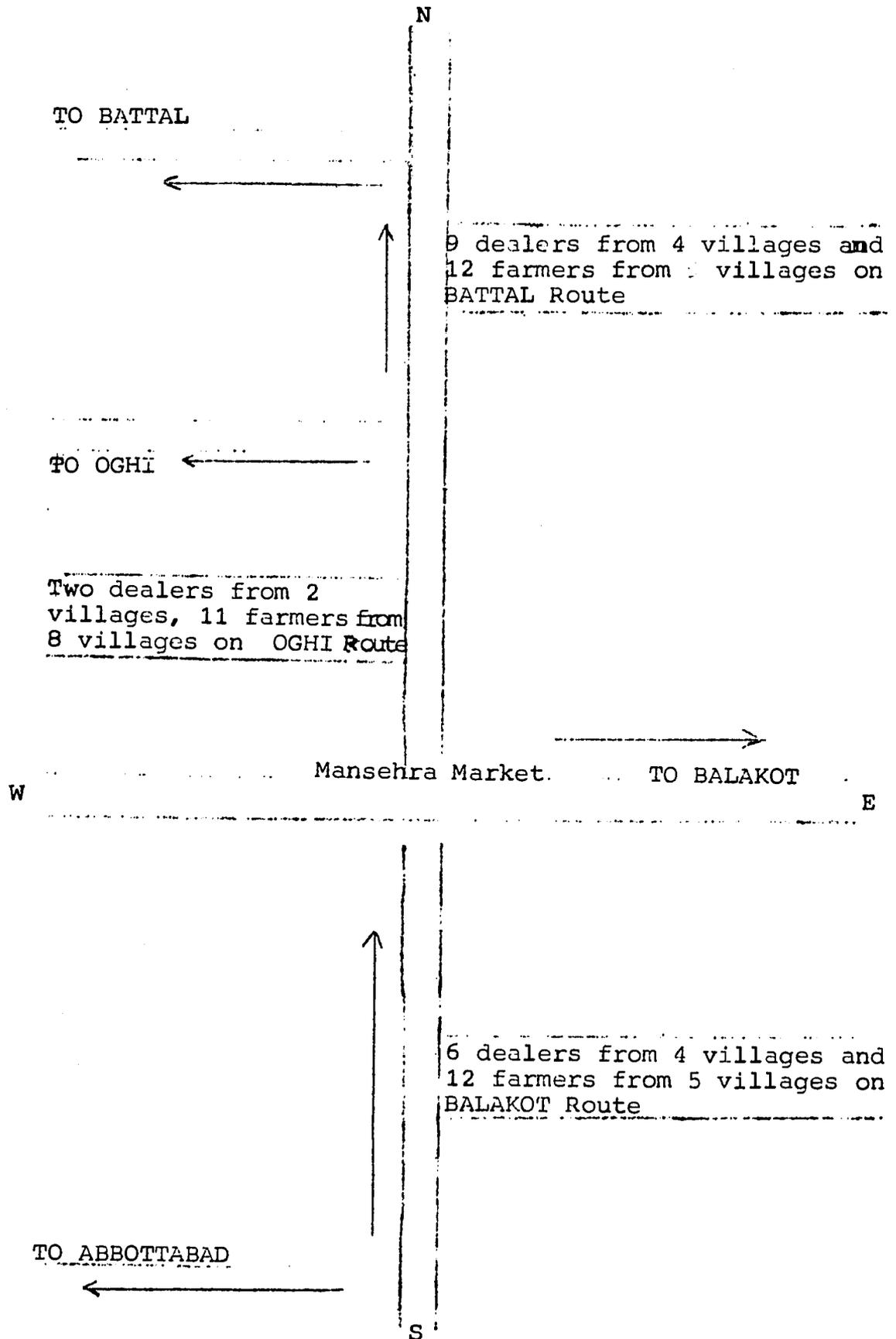


Illustration 1.3

Total Sample Size:-

The total sample comprising markets, villages, dealers, and farmers for both the provinces, is given in Table 1.1:-

Table 1.1: Total Sample Distribution Punjab/  
N.W.F.P.

<u>Province</u>	<u>Market</u>	<u>Sample Size</u>		
		<u>Villages</u>	<u>Dealers</u>	<u>Farmers</u>
Punjab	Chakwal	10	16	102
	Dhufal	$\frac{10}{20}$	$\frac{16}{32}$	$\frac{98}{200}$
NWFP	Mansehra	8	8*	16
	Others**	$\frac{14}{22}$	$\frac{10}{18}$	$\frac{19}{35}$
TOTAL:-		42	50	235

The table shows that the number of villages studied in each of the provinces was almost equal. However, both the dealer and farmer sample in NWFP was smaller than that of the Punjab. The major reason for this shortfall was non-availability of required number of respondents in the planned survey area.

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\* Consists of one big commission agent and 7 village shopkeepers.

\*\* Refers to Oghi, Battal and other village markets.

Scope and Modalities of Field Work:-

Separate interview schedules were developed for farmers and dealers. The schedules were pretested in the planned survey areas. The farmer schedule covered major aspects like farm size, disposal of marketable surplus, farm prices, storage and gross farm income. The dealer questionnaire included dealer business volume, marketing practices, storage capacity, credit needs and overall business problems. The interview schedules for both types of respondents in NWFP were revised and shortened in view of the type and amount of information expected to be available from this area.

The field survey focussed on the production and/or marketing of 'barani' crops and farm inputs as listed below:

<u>Crops</u>	<u>Inputs</u>
Wheat	Fertilizer
Gram	HYV seed
Groundnut	Pesticides
Maize	Small Tools/implements
Oilseeds.	

The unit of analysis for the purpose of this study was a 'barani' farmer producing some marketable surplus of some or all of the major 'barani' crops under study and a dealer operating in an organized

market, or a village dealer handling sale and purchase of farm produce on seasonal basis as a local intermediary in the marketing of farm products and/of farm inputs.

#### Data Collection and Reliability Check:-

The data collection work was undertaken by the Institute's research staff during 1978 and 1979 in the Punjab. The field work in NWFP was handled by the 'Barani' project staff and its Advisory staff. The survey teams were imparted training by giving them demonstration on the interviewing techniques in the field. About 10 per cent of the respondents were re-interviewed to ensure reliability of data. All the filled-in interview schedules were edited in the field and inconsistencies in recording information were removed to avoid complications during data processing stage.

#### Statistical Treatment of Data:-

Hypotheses:- The following hypotheses were framed to give appropriate analytical orientation to the study. The hypotheses relate to the marketing practices of both types of respondents, namely, the farmers and the dealers.

Hypotheses Relating to Farmers:<sup>\*</sup>

1. The larger the farm size, the greater is likely to be the amount of marketable surplus.
2. The larger the farm size, the larger is likely to be the gross farm income.
3. The larger the farm size, the larger is likely to be the on-farm storage capacity.
4. The larger the farm size, the smaller are likely to be the proportional sales at harvest time.
5. Sale prices at harvest time are likely to be lower than the post harvest prices.
6. More the information sources used, the better the prices farmers are likely to receive.
7. Larger the farm size, lesser is likely to be the use of credit.

Hypotheses Relating to Dealers:

1. The greater the volume of the dealer, the more is likely to be the volume of commodities handled on his own account.
2. The greater the dealer size, the lesser is likely to be the amount of credit utilized.
3. The larger the dealer size, the more (in proportionate terms) are likely to be the business costs.

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\* For N.E.F.P., only 5 hypotheses (No 1 through 5) could be tested due to nature of data.

Statistical Techniques Applied:-

The statistical techniques such as correlation, the multivariate regression model, chi-square, T test, and difference-of-means were identified as alternative tests for testing various hypotheses. But in view of the computational limitations, the statistical treatment was limited only to the use of correlation and 'difference-of-means' tests followed by the T test, coefficient of determination ( $R^2$ ) and standard error of estimate to see the significance of results obtained. The correlation test was applied to see the relationship between farm and family size and marketable surplus, storage capacity, farm income, and volume of sales at harvest time etc. The difference-of-means test was applied to see the relationship between time of sale and produce prices (i.e. behavior of prices at the harvest and post harvest periods).

The relationship between dealership type and size with business volume, credit utilization, and business costs was examined through test of correlation. The influence of farmer dealers on business volume was seen through weighted means.

Data Limitations:-

As is generally the case with field survey, several limitations were faced during data collection. Dealer as well as farmer data was based mainly on the memory of the individuals. The data on business volume, credit, and storage practices were apparently under reported by the dealers. Price data were also based on memory recall. The secondary data on business quantum and prices collected from the market committee office also showed similar deficiencies.

Similarly, the timing of farmer sales, volume of each transaction and prices were also based on memory recall and are likely to be under stated or sometimes over stated.

Farmer sample size in NWFP can also be considered a limitation of this study which was mainly due to non-availability of the respondents. However, it is to be noted that during pretest, very little variation was observed in the parameters covered by the study on different sized farms and different sized dealers. Hence, it was decided to study the available sample but to examine the various issues falling within

the purview of the study objectives in thorough details. However, the implications of sample size on the plausibility of the inferences drawn through statistical tests are fully appreciated. Our recommendations are riding more on the strength of the descriptive data and details as opposed to the value of 't' and 'r' statistics in this case.

\*S. AZHAR\*

## C H A P T E R - II

### Review of Literature

Ample research work on various aspects of agricultural marketing like commodity marketing channels, marketing margins and costs, trade malpractices, and farmer/dealer marketing practices has been done pertaining to irrigated agriculture. But research work on marketing of farm products in 'barani' areas is scanty. The review of literature made in the following pages refers mainly to irrigated agriculture. This effort has been made under the assumption that socio-economic setting of irrigated and 'barani' areas is similar in most respects, hence the research findings obtained regarding irrigated agriculture can be referred in relevance to 'barani' agriculture. However, the objective is not to review the whole body of literature on the subject, neither such a coverage is called for. Hence we have attempted to review some of the research work that had direct relevance to our study.

Yasin et al (1976) conducted a study on "Marketing of Agricultural Products in the Punjab". Through this study data about production, cost of production and marketing of 14 commodities (which included pulses, fruits, and vegetables) were generated by surveying 5

wholesale markets of the province. The sample comprised both farmers and market intermediaries involved in the marketing of these commodities at various stages like the supplier (farm gate), the wholesale and the retail stage.

The authors observed that market imperfections and the consequent unfair dealing on the part of market functionaries with the farmers in marketing of farm products were arising mainly as a result of farmers' lack of knowledge and inadequate marketing facilities, difficult access to and absence of proper regulation in the markets like licencing of market functionaries, clear definition of market charges/deductions, enforcement of disputes in marketing of farm products. Consequently, under weighment of growers produce and 'watta' at 1 to 2 seers per maund, commission charges over and above the prescribed rates under the market regulations, other deductions on account of mosque fund, weight of gunny bags, and absence of open auction were some of the common trade malpractices in the markets studied.

The market committies were also not supervising auction of products. Furthermore, retailer was pocketing the maximum share (43%) of retail market price of pulses followed by miller/wholesaler. Village

'beopari' was also reported to share adequate proportion of retail price. The amount of margin was influenced by the number of intermediaries involved in the marketing channel of a particular commodity.

Chaudhry et al (1970) in an "Evaluation of Agricultural Marketing in the Punjab" found that farmers used different sources for collecting price information. Personal visit to market was reported as the major source of price information collection followed by village 'beopari'/village shopkeeper. Mass media (radio/newspaper) as a source of price information was reported by a small number of farmers. The authors further observed that market price quotations issued by the market committees or other agencies involved in price information collection were mostly supplied to higher government offices, radio and newspapers for publicity, but these were seldom disseminated among the growers.

The authors also found that no grower or dealer was doing proper grading and sorting of commodities which could form the basis for price formation and enhance pricing efficiency. Open agreement between sellers and buyers in village markets and underhand cover in city markets were the two major price formation practices investigated.

Regarding various market charges, the study indicated that such charges varied between Rs. 6.70 to 10.21 per maund which were charged by the dealers from the farmers. The major components of such market charges were commission, brokerage, handling, drriage and miscellaneous deductions (mosque fund, market fee, etc).

The authors also reported that 70% of wheat, 80% of maize, and 90% of saleable gram produce was disposed of in the village through village 'beopari'/shopkeeper, because the producers were satisfied with the village level prices offered by these functionaries.

Rashid (1971) in a study on "The Marketing of Wheat in West Pakistan" pointed out that farmers' wheat marketing channels comprised village shopkeeper/'beo-bari', 'kacha' arhtia, broker, 'pacca' arhtia, processors, wheat flour wholesaler and retailers. Government procurements and cooperative commission shops were also reported to be a part of the channels, but the proportion of marketable surplus flowing through these channels was minor. The volume handled by each intermediary was also not precisely known.

The author further investigated the mechanism of price formation in wheat markets and identified two major pricing practices, namely open auction, and under

cover or private negotiation being followed by sellers (farmers) and buyers (dealers). However, the major and customary method of price formation was the under-cover method, which mainly goes to the disadvantage of the grower because he never knows the price settled for his produce between the commission agent and the buyer. Private negotiations (individual agreement) was observed to consume lot of time and effort.

Rashid et al (1973) conducted a study on "Costs and Contributions of Market Intermediaries" in relation to four agri. commodities, namely, wheat, cotton, rice and desi' sugar. The data were generated by surveying a sample of 594 respondents consisting all components of marketing channels i.e. producer, village 'beopari', 'kacha' arhtia, 'pacca' arhtia, regional buyers, processors, ginners, retailers and consumers in six markets of the Punjab. The sample was selected through stratified random sampling technique. Farm size formed the basis for stratification of farmer's sample, while income for dealers.

The authors reported that the volume of wheat flowing through various channels was: village 'beopari' 70 per cent; 'kacha' arhtia, 53 per cent; 'pacca' arhtia, 9 per cent; Government 8 per cent, and consumer 3 per cent. The major portion (53 per cent) of wheat produce was sold during four immediate harvest/post

harvest months, 38 per cent during remaining months and 9 per cent as pre-harvest contract sales. The reasons for this disposal pattern were urgent need for money (88 per cent), storage problem (22 per cent), while four per cent indicated little expectation for better future prices.

Further investigations of the authors showed that the major considerations kept in view by the farmers for the sale of wheat in the market place were: better price expectation, distance to market, facility of transport, social relations/credit ties with dealers, and village 'beopari' not available. Sales in the village were made mainly due to a) low volume of marketable surplus (b) transportation problem, (c) delay in payments of sales made in the market, (d) credit ties with village 'beopari', etc.

The study also provided information about the trade practices of dealers. It reported that 'pacca arhtia' who is assumed to conduct the whole business entirely on his own account was handling 38 per cent business on commission and the rest on his own account. The major commodities handled were wheat, rice and desi sugar, the respective proportion of volume being 41.5, 11.0, 19.3, and 28.2 per cent. Whereas, 'kacha arhtia' whose major practice is handling of commodities on commission basis, also purchased 34

per cent of wheat for sale on his own account. This shows that the business practices of these dealers were not clearly divisible into two categories of 'kacha' and 'pacca arhtia'.

Regarding the pattern of further disposal of wheat, the study revealed that 34 per cent of wheat was sold to outside/local marchants, 40 per cent to the Government, 25 per cent to wheat processors, and the rest to consumers. The retailers were mainly getting their supplies from processors (65 per cent), 'kacha arhtia' (31 per cent), and the rest from 'pacca arhtia'.

Marketable surplus of wheat and rice as proportion of total production was reported at 62 and 83 per cent respectively. The net prices received by the producers were, however, the lowest in case of sales made to village 'beo-bari' as compared with other intermediaries.

Rashid (1970) in a study on "Economic Aspects of Distributive Margins" found a number of factors that caused the existence of large network of market intermediaries. One of the major factors, as observed by the author, was lack of finance at various intermediary levels, because commercial banks were not mostly meeting the credit requirements of dealers due to inadequate collateral arrangements

and risk and uncertainty involved in business. This factor was a major business problem for the dealers, and alleviation of this problem could be helpful in improving the market performance.

Siddiqi et al (1979) conducted a study on "Marketing of Agricultural Products in Sind". The study focussed on two major aspects, namely, determining of cost of production of selected commodities and study of the marketing system including the channels, marketing costs/margins, and price analysis for these commodities. The data were generated by surveying commercial farms and potential markets scattered in all the 12 districts of Sind Province. The total sample size consisted of 1265 respondents that included 310 producers, 115 assemblers/constructors, 420 wholesalers/processors, and 420 retailers involved in production and marketing of various fruits, vegetables and pulses in the province.

The study showed that the marketing system for various commodities covered was centralized, involving a long and complex chain of intermediaries. The commodities moved through the selected few central markets to the retail (consumer) markets. The commodity prices were mainly determined by the marketing agencies located in the central markets. The prices in other markets moved around such predetermined

price levels with a little allowance for marketing/shipment costs and a marginal influence of supply and demand in a particular market. This type of marketing system gave rise to several imperfections in the marketing system like wide farm - retail price differentials through accumulated marketing charges and exaggerated margins at various intermediary levels. The study showed that the middle-man's profit share as a per cent of retail price varied between 28 to 40 for various pulses in the province. The marketing costs were on the order of 27 - 34 per cent. Thus farmer share was reduced to 5-9 per cent of retail price. Marketing margins were unjust particularly for wholesalers and retailers, the respective margins being 22 to 40 per cent (wholesalers) and 10 to 17 per cent (retailers). This shows that wholesalers were pocketing the maximum share.

The study recommended that market committees should be reorganized so as to provide marketing facilities and also supervise market transactions to minimize imperfections. Procurements in the public sector, grading, and cooperative marketing of commodities were other measures suggested to improve the marketing system.

NFC (1977) conducted a study entitled "General Farmers Investigation Survey" in Punjab, NWFP and Sind provinces. The study showed that in sample 'barani' areas, there were

about 56 per cent non-users of fertilizer. The proportion of fertilizer users on irrigated sample farms was quite high (80 per cent). The study also shows that in 'barani' areas, village shopkeeper and Government depots were the major supply sources. For transportation of fertilizer, 70 per cent respondents used non-mechanical means including 'tonga', camel, 'rehra', bullock cart, and buffaloes while, 13 per cent used mechanical means such as buses, wagons. Donkeys and 'heads' were the common means of transportation in 'barani' areas. The transport cost varied between Rs. 1/- and over Rs. 2/- incurred by about 43 per cent of farmers reporting incurring transport cost.

NFC (1978) in another study entitled "Intensive Farmers Survey" conducted in four villages (2 in irrigated and 2 in 'barani' areas) of Punjab and NWFP, found that in Punjab's 'barani' village average cropping intensity was about 92 per cent. Wheat, gram and maize were the major crops of which marketable surplus was available with the farmers. The average quantity marketed was about 19.0, 31.0 and 55.0 maunds., constituting 7, 58, and 85 per cent of total production. Village shopkeeper was the major channel of sales. Most commodities were sold when need arose as a precautionary measure in view of lack of funds.

The study further showed that of the sample farmers, 26 per cent were non-users of fertilizer, while the rest had applied some fertilizers to a part of their cropped area in varying amounts. Village shopkeeper was the major supply source. Bus/wagon was the most common means used to transport fertilizer from outside the village. The average cost incurred was Rs. 2.40 per bag.

Regarding the use of credit by farmers, the study revealed that a majority of farmers reported taking credit from both institutional and non-institutional sources. The loans were partly used for domestic purposes and partly for seed, livestock and farm equipment. As remittances were an important source of farm families income, 35 per cent of farmers reported receiving remittances from family members working off the farm. The amount so received was used for home consumption. The Intensive Farmers Survey conducted in NWFP 'barani' village showed that average cropping intensity was about 99 per cent. Maize was found to be the major crop grown by sample farmers. Wheat was grown by a small per cent of farmers which occupied a small proportion of their cropped area. No farmer had marketable surplus of wheat or maize. Fertilizer use was reported to be very limited as only 37 per cent of the sample farmers were using or had used fertilizer on their land.

A majority of sample farmers (63 per cent), however, reported using credit. Relatives/friends, and village shopkeeper were the major sources of credit for the sample farmers. Remittances also formed a major source of supplementing farm families income as 50 per cent of the respondents reported receiving remittances which were mainly used to meet domestic needs.

Eckert and Khan (1977) in a study on "Rural-Urban Labour Migration: Evidence from Pakistan" investigated that average remittances per migrant family were Rs. 10 . . . . . in Punjab and Rs. 70 in NWFP. This excluded the migrants not remitting any amount to their families.

The CENTO Travelling Seminar (1967) on "Marketing of Livestock Products" pointed out that livestock marketing facilities were almost non-existent in the countries visited (Pakistan, Iran, and Turkey). No auction sales were taking place. The available facilities were inadequate to provide services needed by livestock producers. Referring to Pakistan, the Seminar reported that there were no market places entirely run by the Government. The marketing of livestock was done under the auspices of local bodies by holding cattle shows on fixed dates every month. Cattle markets are also arranged by private parties throughout the year except on meatless days. Animals are transported either on foot (for short distances) or by truck, rail, and ferry boats (for long

distances).

The seminar recommended that: (a) stockyards with feeding, watering and resting facilities should be constructed along railroads, and highways so that farmers are not compelled to sell their animals at low prices, (b) The Government Department concerned with livestock marketing should undertake the responsibility of planning and constructing livestock markets, (c) Livestock assembling points should be established close to the production points/areas with all the needed facilities mentioned above.

\*S. AZHAR\*

# P U N J A B

## C H A P T E R - III

### CHARACTERISTICS OF THE MARKETS

Characteristically, the existing marketing system is traditional and centralized\*. The farm products flow to the consumer markets through an intricate network of marketing channels. The market intermediaries involved in physical assembly-distributive functions of farm products at village, primary, and wholesale market level include the village shopkeeper, village 'beoparies\*\*' (itinerant dealers) 'kacha arhtia' or commission agents, and 'pacca arhtia' or wholesalers. Another market functionary, the broker, also plays an important role in concluding various transactions

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\* The existing marketing system is 'traditional' in the sense that few radical market structural changes have occurred over the past few decades except Govt. participation in essential commodities trade (wheat, rice, cotton, potato, onion, etc) through price supports, zoning, public sector procurement/storage operations and export promotion programs which has contributed to improve market performance. Functionally, however, substantial improvements have been effected in physical infrastructure like increased rail and road transport facility, marketing information communication arrangements through a telecommunication system resulting in a fair degree of market integration with respect to temporal and spatial commodity movements and their prices. Development of new wholesale grain markets is also an achievement of the last decade. Grading, standardization, refrigerated transport facilities, development of livestock markets, and appropriate livestock transportation arrangements are, however, still in primitive stages and need considerable improvement.

\*\* Village 'beoparies' (itinerant dealers) operate mainly on a seasonal basis. They either handle business independantly on their own account or on behalf of some wholesale dealer in the market.

between producers and dealers, or between dealers. These brokers very often also work as auctioneers employed by the market organizations. The sale transactions are generally concluded through open auction or individual agreement.<sup>1</sup>

The grain markets of Chakwal and Dhudial studied in Punjab's 'barani' area represent the traditional centralized marketing system prevalent elsewhere in the country. The farm products reaching the primary and wholesale market under study were assembled in a variety of ways: (a) direct sales by farmers in the markets; (b) commodities assembled by village shopkeepers, or village 'beoparies' working on a seasonal basis and brought to the markets, and (c) direct purchases from farmers by the wholesale dealers/commission

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1/ For example, see USDA, The Marketing Challenge, (Washington, DC: 1970); Uma, J. Lale, Study of Grain Markets in Selected States, India, 1955-56 to 1964-65 (Ithaca, Newyork: Cornell University, Department of Agri. Economics, 1968); J.C. Abbot, "The Development of Marketing Institutions" in Agricultural Development and Economic Growth, ed. Herman M. Southworth and Bruce F. Johnston (Ithaca, Newyork: Cornell University Press, 1968); Muhammad Manzoor Ali, Price Discovery and Formation in Khanewal Wheat Markets. Unpublished M.S. Thesis. American University of Beirut, Lebanon, 1971; USDA, Changes in Agriculture in 26 Developing Nations, 1948-63, Foreign Agricultural Research Report No. 27 (Washington, DC: Economic Research Service, USDA, 1965).

Based on the recent data collected, a fuller treatment of this feature of the marketing system is made in Chapter VI of the report, which provides ample support on the above viewpoint.

agents.

Both sample markets were found to be competitive, the transactions being concluded through open auction or individual agreement between sellers (mainly farmers) and the buyers. However, experience gained through participant observation showed two major imperfections as will be supported by the sample survey findings later on. Firstly, the open auction, though a competitive practice, entailed collusive behaviour of marketing agents allowing only marginal interplay of market forces. The dealers were observed by interviewers while interacting with them at the time of interview to agree on a general market price level for various grades of products exhibited for sale in the market before the actual auction of commodities. The highest bids were allowed to move around that price depending upon the grade of the products. This general market price was mainly based upon current prices in regional wholesale markets after allowing an attractive profit margin on each transaction. Thus the farmers were not really benefitting from this 'competitive' pricing practice. Despite this, the farmers continue to sell their produce through the dealers, as they have no alternative marketing channels. For this reason, we have recommended opening of public sector procurement centers in this area.

Secondly, the element of monopsony<sup>\*</sup> was also observed by the field survey team to enter into the market transactions. On certain occasions, a single buyer used to indicate his plan for purchasing the whole volume of a particular commodity available in the market on a particular day. An open auction was held with the other competing buyers and the auction bids concluded at the price level desired by the monopsonistic buyer and invariably to the disadvantage of the producer. Such monopsonic conduct was more prominent in Dhudial market.

Market Conditions:- Both the sample markets were regulated under the Agricultural Produce Market Act, 1939. The legal provisions of this Act are enforced through an institution called a 'Market Committee'<sup>\*</sup>, established within the legal framework of the said Act. The market committee was located at Chakwal with a sub-office at Dhudial. However, only the Chakwal market was located on an organized market premises,

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\* The term monopsony in theory, is mostly discussed with reference to "resource markets". Whereas, it is also applicable to the product markets, where there is a single buyer of a product. See Richard H. Leftwich, The Price System and Resource Allocation (Newyork: Holt Rinehart and Winston, 1966).

\* The Market Committees through their by-laws define market trade practices, market charges to be paid by dealers, and the protection the farmers can expect under the provisions of the Market Act and by-laws. The Market Committees also regulate business through licensing and check on trade practices, commodity arrivals, prices, auctions, and business charges such as commission, and trade allowances.

while the subsidiary market of Dhudial was located in a bazar, extending North-South in Dhudial Village. The market premises of Chakwal market belonged to the Government whereas, the market place in Dhudial was owned by private individuals. The significance of location of Chakwal market in a Government owned and organized premise was that it had considerably facilitated effective control over traffic, business transactions, arrival of farm products, better management of other facilities like drainage, drinking water, animal sheds, storage platforms, etc., by the market committee.

Contrary to this, fewer amenities could be provided in the Dhudial market due to lack of space and ownership rights of the shopping area. The market place was not capable of efficiently handling the total business volume, and animal traffic. There was also very little scope for further expansion as it was located in the central and congested part of the Dhudial village.

Size of Market:- Chakwal market being the principal wholesale market was serving the largest number of the 'Tehsil' villages. Dhudial market had a smaller service range and was covering the villages in close proximity to or the ones directly linked with this market by 'kacha' or 'pacca' road. The information collected about the distribution of sample villages with respect to the market-pull of Chakwal and

Dhudial markets is indicated in Table 3-1. In order to see the influence of these markets on the marketing activities of all 'Tehsil' villages, the distribution of 'Tehsil' villages was inferred from the distribution of sample villages, as indicated below:

Table 3-1: Distribution of Villages Served by Various Markets

Market	Villages Served			
	Sample Villages		Tehsil Villages	
	No	%	No	%
Chakwal	10	50	160	61
Dhudial	3	15	56	21
Chakwal and Dhudial both	6	30	20	8
Other Markets*	1	5	26	10
TOTAL	20	100	262	100

As may be seen from the table above, Chakwal market attracted farm products from 50 per cent of the villages under study. Farm produce from 61 per cent of 'Tehsil' villages was also received in this market. The table further shows that 30 per cent of sample villages located in the Dhudial market were also found selling a considerable part of their farm products, particularly of gram and groundnut, in Chakwal market. The

\* About 5 percent of the sample farmers and 10 per cent of 'Tehsil' villages were also reported selling in other markets, mainly at Gujar Khan. The major reason for such a marketing behaviour was location of these villages at a longer distance from Chakwal market.

principal reasons explained by the respondents for such a marketing behaviour were that Chakwal market was more organized, competitive and offered better prices. The additional facilities available were a direct road link and transport facility, and facility of attending other affairs at the 'Tehsil' headquarters.

The information collected about various services available to the farming community in the study markets shows that, besides facility of sale/purchase of farm produce, services like farm machinery repair workshops, oils and lubricants, seed, fertilizer, pesticides and other consumption articles were also available to them at these places. The offices of Agricultural Extension Service and other departments were also located at these places. However, no Government procurement center was functioning in these areas.

2/  
Market Structure:- The study indicated that there were 39 wholesale dealers in Chakwal market and 30 dealers\* in Dhudial market. The pattern of business of these dealers

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2/ Generally, the activities of dealers in the market were not clearly identifiable as a 'commission agent' or a wholesaler, hence the term commission agent or a wholesaler has been used interchangeably.

\* These dealers were also handling 'karyana' alongwith whole-sale business.

was typical of other markets located in the irrigated or 'barani' areas. Two types of dealership were identified.

a) 'Kacha arhtia' or commission agents; These dealers were working purely on commission basis.

b) 'Kacha' + 'pacca' arhtias\*:

Dealers working partly on commission basis and partly on their own account fall in the latter category. A majority of the dealers in these two markets were of this type. However, the 'kacha-pacca' dealers of Dhudial market were somewhat different from the ones found in Chakwal market. Thus the former group, besides dealing in agricultural commodities on a commission basis or on their own account, was also handling a sizeable volume of retail business at the same time. The distribution of sample dealers is given in the table below:-

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\* No pure 'pacca arhtia' was working in either of these markets.

Table 3.2: Classification of Dealers in  
Chakwal and Dhudial Markets

Market	Sample Size	Dealership Type			
		Purely Kacha		Kacha + Pacca	
		No	%	No	%
Chakwal	16	5 (5)	31 (42)	11 (7)	69 (58)
Dhudial	16	1 (1)	6 (9)	15 (10)	94 (81)
TOTAL:	32	6 (6)	19 (26)	26 (17)	81 (74)

Figures in the parantheses give dealers' distribution by their ancestral profession as farmers. The remaining dealers belonged to non-farming category.

The table indicates that a majority of sample dealers in both the markets belonged to 'kacha + pacca' category. This practice helped them in hedging against business risks anticipated in purely 'pacca' business. The table also shows that a large percentage (72) of dealers belonged to the farming community in both the markets. This implies that farmer dealers are able to attract more business from their village-fellow farmers. The data gathered indicate that the average quantity of

commodities purchased by farmer dealers was about 7300 maunds compared with about 4637 maunds for non-farmer dealers which clearly supports the above viewpoint. Farmer dealers could also represent their own interests more effectively in the market committee affairs both as dealers' and farmers' representatives.

Ownership of Godowns/Shops:- The ownership of godowns and shops was mainly related to the business practices of dealers. 'Kacha' dealers work on a commission basis and hence obviously did not need to own a storage facility. Whereas, 'kacha + pacca arhtia' required both a large storage and shopping space in order to handle the large business volume and to store farm products to hedge against unexpected and wide fluctuations in prices. This is clearly evident from the information contained in table 3.3:

Table 3.3: Ownership of Shops and Godowns by Dealer Type

Market	Kacha Dealer		Kacha + Pacca Dealer		Total	
	Owned	Rented-in	Owned	Rented-in	Owned	Rented-in
Chakwal	1 (20)	4 (80)	3 (27)	8 (73)	4 (25)	12 (75)
Dhudial	-	1 (100)	10 (67)	5 (33)	10 (62.5)	6 (37.5)
TOTAL	1 (17)	5 (83)	13 (50)	13 (50)	14 (44)	18 (56)

Figures in the parantheses give the ownership + rental status of shops and godowns in percentage.

The table shows that about 83 per cent of the 'kacha' dealers had rented-in shops and godowns, while 50 per cent of the 'kacha + pacca' dealers had rented-in shops/godowns in both the markets. On the whole, 56 per cent of the dealers used rented-in stores/shops. This shows a clear relationship of ownership status of shops/godowns to business type, the ownership being confined mainly to 'kacha + pacca arhtias'.

Livestock 'mandies':- Reportedly, there were two livestock 'mandies' in Chakwal market area and one 'mandi' in Dhudial area. These 'mandies' were organized on a weekly basis for one day on different week days to provide greater opportunities for sale and purchase of livestock. These 'mandies' were under the control of local councils and were held in the open space specified for this purpose by the concerned council. The space is leased out on a yearly basis to a contractor, who charges an entry fee per animal. No other marketing facilities are available to sellers or purchasers, except the open space for the animals brought for sale.

\*S. AZHAR\*

# P U N J A B

## C H A P T E R : IV

### CHARACTERISTICS OF THE 'BARANI' FARMERS

This chapter presents a description of the sample farm households. The description covers sample villages location with reference to grain markets, sample distribution by farm size, average net operational holding/farm area under cultivation, farm production activities, marketable surpluses, family structure, family consumption needs, and gross income.

Location of Sample Villages:- As discussed in the section on methodology, the sample villages were selected, almost in equal proportion, from within three concentric radii extending over 10 miles in the case of Chakwal and two radii extending upto 10 miles in the case of Dhudial market area. Table 4.1 indicates that only 25 per cent of the sample villages were located on 'pacca' roads, while the rest were connected by both 'kacha + pacca' roads. The distribution of sample villages of the Dhudial area was similar to the one described above. In Chakwal area, 57 per cent of sample villages were located on 'kacha + pacca' roads, and the remaining 43 per cent were linked by 'pacca' road.

Table 4.1: Location of Sample Villages\*

Market	(Distance radii in miles/Type of link road)							
	0 - 5		5 - 10		Over 10		Total	
	P	K+P	P	K+P	P	K+P	P	K+P
Chakwal	1	2	1	3	1	2	3	7
Dhudial	1	4	1	4	-	-	2	8
TOTAL:	2	6	2	7	1	2	5	15

\* The figures in the table indicate number of villages in each category.

The type of roads linking the sample villages shows that the majority of the sample villages were located on 'kacha + pacca' roads. The number of villages located on 'pacca' roads was quite small. This implies that 'pacca' road linkage was inadequate, which could possibly be taken as a factor limiting farmers' ability to sell their produce in relatively more competitive and developed markets like Chakwal.

Farm Size Distribution:- The respondents sample consisted of small and large farmers stratified on the basis of the size of cultivated farm area owned. Table 4.2 below indicates that 45 per cent of the sample farmers were of small size. Cultivated farm area ranged between 3 and 12.5 acres. The rest of the sample comprised large farmers owning holdings of between 14 to 200 acres. As is generally the pattern elsewhere in the country, the small farmers were cultivating

their land more intensively. This is evident from the fact that small farmers had large proportion of close to 94 per cent of cultivated land compared to the large farmers, in whose case the average proportion of cultivated land was found to be 75 per cent (Table 4.2). This implies lower land use intensity at large farms.

Table 4.2: Farm Characteristics

Market/ F. Size	Sample* Size	Average Farm Size (Acres) ----on the Basis of----			Cultivated Land (as a Percent of the Total Farm Land)
		Total Land	Cultivated+ Land	Net-Operat- ional Hold- ing**	
<u>CHAKWAL</u>					
Small	48	8.4	8.1	8.6	95.6
Large	54	57.5	40.9	32.6	71.1
<u>DHUDIAL</u>					
Small	52	9.6	9.0	9.2	93.5
Large	46	34.6	28.8	28.2	83.3
<u>TOTAL</u>					
Small	100	9.0	8.5	8.9	94.4
Large	100	47.0	35.3	30.6	75.3

Sample stratification was only done by size. However, among our sample respondents, there are 12 owner-cum-tenant farmers.

- \* Five large farmers in Chakwal and four in Dhudial had rented-out land.
- \*\* Average net operational land holding = area owned-area rented-out+area rented-in.
- + Cultivated area means that farm area which was sown at least once during or before the survey.

The above table shows that the average farm size, measured in terms of total land ownership, was 9 acres in

the case of small farmers and 47 acres in the case of large farmers. The average farm size based on cultivated area was 8.5 acres and 35.3 acres respectively for these two categories of farms.

Renting-out of land in 'barani' areas is quite common as most of the able bodied males try to work at non-farm jobs. Income from the rented-out land serves as a good supplement to the off-farm earnings. Contrary to this, the same families also rent-in land to increase their farm income. Our study shows that the average crop share received from the rented-in land by the sample households was 17.3 maunds in the case of small and 32.0 maunds in the case of large farmers during 'kharif', and 28.3 maunds and 54 maunds respectively during 'rabi'.

Farm Production Activities:- Farm production activities included farmer cropping, livestock, and poultry production plans. Various aspects of these activities reviewed in the following sections are farmer plans for increasing crop production, disposal of incremental production, prices needed to cover cost of production, factors limiting farm production activities, and incentives needed to maintain their interest in farming.

Cropping Pattern:- Farming in 'barani' areas has a subsistence orientation. The farmers prefer to grow whatever is

permitted by the ecological conditions of the region, mainly for home consumption. Small farmers use their land resources more intensively compared to the large farmers but no discernible difference exists in the variety of crops grown by these two categories of farmers. Information on cropping intensity\* and cropping pattern for the sample farms is presented in the table 4.3:

Table 4.3: Cropping Pattern on Sample Farms

(a) Kharif, 1977

Farm Size	Average Cropped Area	Cropping Intensity	Groundnut	Kharif Pulses	Jowar	Bajra	Others**	Total
Small	4.2	120.4	45.6 (88)	8.0 (34)	30.8 (89)	12.4 (51)	3.1 (12)	100
Large	11.9	84.1	53.2 (95)	7.2 (37)	23.3 (83)	12.3 (59)	4.0 (22)	100
TOTAL:	8.1	91.2	51.2 (91.5)	7.4 (35.5)	25.3 (86)	12.3 (55)	3.8 (17)	100

\* Cropping intensity refers to whole year and represents the total cropped area in terms of total cultivated area multiplied by 100, and indicates the extent to which cultivated area was used for cropping in a year. The formula is  $\frac{\text{Total cropped area}}{\text{Total cultivated area}} \times 100$ .

(b) Rabi, 1977-78

Farm Size	Average Cropped Area	Wheat	Gram	Pulses	Oilseeds	Others**	Total
Small	6.0	73.5 (100)	24.6 (90)	1.3 (6)	0.3 (3)	0.3 (2)	100
Large	17.0	75.6 (100)	21.2 (96)	1.6 (13)	1.3 (11)	0.3 (4)	100
TOTAL:	11.9	75.1 (100)	22.1 (93)	1.5 (9.5)	1.0 (7)	0.3 (3)	100

Area under each crop expressed as percentage of total cropped area for the season.

Figures in parentheses give the percentage of respondents growing the crop in each size category.

\*\*Other crops comprise maize, gowara, sesamum and cowpeas. Area under Jowar+Bajra includes area both for grain and fodder. Barely and oats during 'rabi'.

The above table shows that cropping intensity of small farmers was 120.4 per cent compared to about 84 per cent of large farmers indicating small farmers more intensive efforts in crop cultivation. The overall cropping intensity works out to 91 per cent which is comparable to the average intensity of 'barani' areas. The table also indicates that the farmers in the study area were growing crops like groundnut, pulses, and fodder (jowar & bajra) during 'kharif' and wheat, gram, pulses, oilseeds\* and fodder\* in 'rabi'. The proportion of area under 'kharif' crops was less (40.5 per cent) compared to 'rabi' (59.5 per cent)\*\*. Wheat, gram, and groundnut were, however, the three major crops invariably grown by almost all farmers. Among these major crops, groundnut and gram were mainly raised for the market; whereas, wheat production was hardly sufficient to meet the farm household consumption requirements. The percentage of respondents growing other crops and the relative position of these crops in the cropping pattern was considerably lower.

Table 4.3 shows that groundnut ranked highest among the 'kharif' crops, occupying 51 per cent of the

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\* Oilseeds were usually intercropped in wheat fields and mostly used as fodder alongwith barley/oats.

\*\* On the basis of average cropped area.

'kharif' cropped acreage, followed by jowar which had 25 per cent of the 'kharif' area to its share. Similarly, wheat was the main crop activity in the 'rabi' season claiming 75 per cent of the area, followed by gram which was raised on 22 per cent of the 'rabi' acreage.

Production by Farm Size:- In view of the low crop productivity in the 'barani' areas, the size of the total production volume on different categories of farms was relatively small. As may be seen from table 4.4 small farmers, on the average, produced about 15 maunds and large farmers about 43 maunds of groundnut. The average production of wheat on small and large farm was about 43 maunds and 97 maunds respectively.

Table 4.4: Average Production of Major Crops on Sample Farms\*

(a) Kharif- 1977 (production figures in Maunds)

Farm Size	Groundnut	Pulses	Jowar (Grains)	Bajra (grains)	Others
Small	15.3 (88)	2.2. (34)	1.9 (89)	1.5 (51)	5.7 (12)
Large	43.1 (95)	6.3 (37)	4.2 (83)	4.4 (59)	8.1 (22)
TOTAL	29.7 (91.5)	4.3 (35.5)	3.0 (86.0)	3.1 (55)	7.2 (17)

For explanation see footnote under part (b) of table 4.4.

(b) Rabi - 1977-78

Farm Size	Wheat	Gram	Pulses	Oilseeds	Others
Small	42.8 (100)	11.7 (90)	7.2 (6)	3.4 (3)	- (2)
Large	96.6 (100)	30 (96)	9.2 (13)	4.4 (11)	8.4 (4)
TOTAL	69.7 (100)	21.2 (93)	7.0 (9.5)	5.2 (7)	5.6 (3)

\* Total production of all sample farms divided by sample farms actually growing crops in each farm size category.

\*\* No grain yield obtained - fed to animals.

Figures in parentheses indicate the percentage of respondents producing the crop.

In the case of gram, the average total production was about 12 maunds on small farms and 30 maunds on large farms. The production of the other crops was insignificant. On the whole, average production of groundnut, wheat and gram on the sample farms, was about 30, 70 and 21 maunds respectively.

Plans to Increase Production:- For increasing crop production, two standardized approaches are followed i.e. through increase in area under a particular crop or by increasing per acre yield through more intensive input use. The farmers generally frame their production plans in the context of these two approaches in order

to meet their financial commitments. However, our sample survey shows that about 90-93 per cent of the small farmers did not have any plans to increase production of any of the major crops, either by increasing acreage or per acre output for the reasons discussed in a later section. The remaining farmers did mention the possibilities of increasing total production by bringing some fallow fields under major crops like gram, wheat, and groundnut.

Table 4.5: Farmer Plans for Increasing Production

Farm Size	Crops	Contemplated Increase (in acres)			No Plan to Increase
		0 - 5	6 - 10	11 - 15	
Small	Wheat	7 (7)	-	-	93 (93)
	Gram	6 (6.7)	-	-	84 (93.3)
	Ground-nut	8 (9.1)	-	-	80 (90.9)
Large	Wheat	28 (28)	8 (8)	1 (1)	63 (63)
	Gram	23 (24)	2 (2.1)	3 (3.1)	68 (70.8)
	Ground-nut	22 (23.2)	4 (4.2)	-	69 (72.6)

Figures in parentheses show percentage of respondents.

The small farmers mentioned the possibilities of minor increases in their cropped acreage, but large farmers saw potentials for a perceptible increase provided the price incentives were there and the rainfall constraint would not hinder their plans. As may be seen from table 4.5, about 24 per cent of the large farmers had plans to increase the acreage area under gram by as much as 5 acres. A small component (5 per cent) of the respondents contemplated an increase of even up to 15 acres. A large category of farmers also planned to increase wheat acreage, and 36 per cent of them mentioned the possible increase of up to 10 acres. Surprisingly, a majority of the respondents did not contemplate any increase in the acreage under groundnut.

Prices Needed to Cover Cost of Production:-

Farm produce prices are one of the major determinants of farmer production response. The farmers conceive of a minimum price which could be sufficient just to cover their cost of production of a particular crop. During the survey, the farmers were asked to express their views on minimum

commodity prices acceptable to them for continuing their interest in farming. Accordingly, a large percentage of sample farmers (48 per cent) mentioned Rs. 85/- or above as the minimum essential price to cover the cost of production of groundnut (table 4.6). However, about 38 per cent of the respondents were of the view that a price of between Rs. 65 and 85 per maund would be sufficient to induce the growers to continue producing groundnut. In the case of wheat, a price of between Rs. 45/- and 65/- was considered attractive by 38.5 per cent of the respondents. A small minority (about 16.5 per cent) of the sample farmers, however, considered a price of between Rs. 25 and 45 as the needed incentive price. The remainder of the respondents could not conceive properly the acceptable price level, hence offered no suggestion.

For gram, 63.5 per cent of the growers indicated that a minimum price of between Rs. 25 and 45 per maund should be ensured. On the other hand, about 19.5 per cent of the respondents expressed the view that a price of between Rs. 45 to 65 would be reasonable enough to cover the cost of production of gram.

Ten per cent of the gram growers could not suggest any price level.

Table 4.6: Prices Considered Sufficient by the Sample Farmers to Cover the Cost of Production

Crop	Price Ranges (Rs/Maund)				No Response	Total
	25-44.9	45-64.9	65-84.9	85 & Above		
<u>Ground-nut*</u>	-	7 (3.5)	76 (38.0)	95 (47.5)	5 (2.5)	183 (91.5)
<u>Wheat</u>	33 (16.5)	77 (38.5)	-	-	90 (45)	200 (100)
<u>Gram*</u>	127 (63.5)	39 (19.5)	-	-	20 (10)	186 (93)

Figures in parentheses indicate the percentage of respondents that regarded these price ranges as attractive.

\* The percentages do not add up to 100 in the case of groundnut and gram because all sample farmers did not grow these crops.

Disposal of Incremental Produce: The utilization of income from incremental production was distributed over two major purposes i.e. family needs and purchase of farm inputs. Small farmers planned to increase wheat production mainly for domestic use, and use the

proceeds from the sale of gram for purchasing farm inputs. A similar pattern was observed in the case of large farmers (Table 4.7).

Table 4.7: Utilization of Incremental Produce

Farm Size	Crop :	No Plan to Increase Production	Utilization	
			To meet Domestic Needs	To Purchase Farm Inputs
<u>SMALL</u>	Wheat	93 (93)	7 (7)	-
	Gram	84 (93.3)	-	6 (6.7)
	Groundnut	80 (90.9)	3 (3.4)	5 (5.7)
<u>LARGE</u>	Wheat	63 (63)	24 (24)	13 (13)
	Gram	68 (70.8)	18 (18.8)	10 (10.4)
	Groundnut	69 (72.6)	10 (10.5)	16 (16.9)

Figures in parentheses show percentage of respondents.

Factors Limiting Production:- Both production and productivity in the rainfed areas is mainly limited by the pattern and the quantum of rainfall, availability of draft power and manual labour, and the nature

of the terrain. The respondents also mentioned some similar reasons that they thought were constraining further improvement in crop and crop-based production activities.

Crops:- Of the several factors impeding farm productivity, shortage of irrigation water or uncertain rainfall was the most prominent limiting factor mentioned by between 35 and 29 per cent of the small and the large farmers. This shortage of water was aggravated in the absence of proper water conservation practices which resulted in wastage of water due to run-off. Rats and rodents damaging the soil accelerate the run-off problem. Water shortage problem could be reduced by proper conservation practices and control of rodents. Low use of farm inputs was also an important factor affecting crop production. High cost of fertilizer and its non-availability, difficult accessibility to and non-availability of inputs like new seed varieties, pesticides, farm machinery and farm labour were the major factors causing low or non-use of these inputs, as mentioned by a fairly large percentage of respondents. Financial constraint due to difficult access to farm credit and high cost of input was another important factor limiting crop

production.

Table 4.8: Factors Limiting Crop Production

Farm Size	Water* Shortage	Non-Avail- ability of Inputs**	Cost and Financial Constraints	Insect/ rodent attack	Others***
Small	88 (34.8)	61 (24.2)	15 (5.9)	27 (10.7)	62 (24.4)
Large	81 (29.4)	79 (28.8)	22 (8)	23 (8.4)	70 (25.4)

Figures in parentheses indicate percent of respondents mentioning a particular factor.

\* Represents uncertainty and quantum of rainfall.

\*\* Refers to non-availability of fertilizer and other inputs on time, and within easy accessibility.

\*\*\*Includes water logging, land fragmentation, uneven terrain, road, quality and electricity not available.

In addition, some other factors like water logging, land fragmentation, lack of electricity, pucca roads, and guidance from extension service also influenced the crop production activities of farmers.

Incentives Needed:- As may be seen from table 4.9, the supply of irrigation water through small dams and

installation of tubewells, wherever feasible and timely supply of inputs from easily accessible distribution points and at cheaper rates were the two major incentives considered necessary by both the small and large farmers to improve crop production. Some of them also suggested that the inputs like fertilizer be made more attractive by further subsidizing the fertilizer price in the 'barani' areas because similar subsidy levels in both areas were not justified. Another group of respondents expressed the view that for meaningful improvement in crop productivity, proper contouring, soil conservation and land levelling were important operations for which public agencies should hire out machinery and technical advice at lower rates.

Table 4.9: Incentives Needed to Increase Crop Production

Farm Size	Supply of Water	Timely, easy Supply of Inputs at Cheaper/Subsidized Rate	Lowering of Charges for Use of Farm Machinery	Cost and Financial Constraints	Others*	Total*
Small	83 (39.7)	61 (27.2)	21 (10.1)	17 (8.1)	27 (12.9)	209 (100)
Large	82 (33.9)	79 (32.6)	32 (13.2)	15 (6.2)	34 (14.1)	242 (100)

\* Credit facility, tractor workshop, land consolidation, agricultural department cooperation, increased price of farm products, etc.

\* Multiple responses.

Figures in parentheses indicate percentage of respondents mentioning a particular incentive or facility.

Livestock and Poultry Production:- Due to low crop productivity, livestock and poultry production is considered an attractive complementary activity to supplement farm income from crops. It is, however, equally disturbing that even in these sectors no major improvement has so far been realised. Whatever production of livestock and poultry there is, it is essentially of a non-commercial type carried on in traditional and unscientific style. Farmers were asked as to what were the factors in their view that were constraining livestock and poultry production in the 'barani' areas.

The responses are recorded in table 4.10 and 4.11 below:

Table 4.10: Livestock Production\*

Farm Size	Limiting Factors					Total	Incentives Needed		
	Shortage of Water/Fodder	Lack of Substitution for Bullock Power	Labour and Other Constraints	Medical Care/Breeding	No Limiting Factor		Provide Veterinary Care/Good quality Breeds	Market for Live-stock	Provide Loan Facility
Small	34 (33.4)	18 (17.6)	31 (30.4)	9 (8.8)	10 (9.8)	102 (100)	17 (81.0)	-	4 (19.0)
Large	40 (33.6)	15 (12.6)	33 (27.7)	16 (13.4)	15 (12.7)	119 (100)	26 (83.9)	4 (12.9)	1 (3.2)

\* Multiple Response.

Figures in parentheses indicate percentage of respondents.

As may be seen from the above table, sample farmers reported several factors limiting production of livestock. Although the magnitude of these factors

for small and large farmers was comparable, yet replacement of bullock draft power by tractor, particularly in irrigated areas, followed by shortage of labour, water/fodder and other constraints were the most prominent factors influencing small and large farmer's plans to increase livestock production.

Farmers were also asked to mention any incentives needed by them to improve livestock production. Improved breeds and veterinary care for protection of livestock from diseases were the major suggestions made or incentives needed by small and large farmers to undertake more livestock farming.

Poultry:- A high incidence of poultry disease was the major factor reported as a deterrant to increased production by 49 per cent of the small farmers, who also mentioned a shortage of family labour as another factor constraining poultry production. Large farmers mentioned the shortage of family labour and the losses due to poultry diseases as the two major factors affecting their interest in this enterprise (Table 4.11).

Table 4.11: Poultry Production\*

Farm size	Limiting Factors					Incentives Needed		
	No Limiting Factor	Disease attack/Lack of Medical Facilities	Shortage** of Family Labour and Other Constraints	No Proper Guidance	Financial Constraints	Poultry Breeding Extension	Credit Facility	Medical Care
Small	2 (2)	49 (48.6)	45 (44.4)	2 (2)	3 (3)	26 (39.4)	2 (3.0)	38 (57.6)
Large	4 (3.7)	41 (37.6)	54 (49.5)	9 (8.3)	1 (0.9)	23 (39.7)	2 (3.4)	33 (56.9)

Multiple responses.

\* Lack of interest, unable to pay attention due to old age, poultry breeding not a popular practice in the area, feeds not available, lack of electricity.

Figures in parentheses show percentage of respondents mentioning a particular factor/incentive.

Establishment of veterinary hospitals for treatment of poultry birds and arranging poultry breeding training courses were the two major improvements mentioned as important by the small and large farmers which could maintain their interest in the poultry breeding enterprise.

Marketable Surplus:-

Crops:- Uncertain rainfall conditions and consequently the limited use of improved farm inputs, particularly fertilizer, was the main deterrent to further improvement in crop productivity. The marketable

surplus originating on the sample farms was thus quite meagre. Groundnut during 'kharif' and gram during 'rabi' were the only two principal crops in whose cases sizeable marketable surpluses were reported on 90 and 83 per cent of farms respectively. Between 83 and 86 per cent of the production of these crops was sold in the market, implying that a negligible portion was retained for home consumption. A small amount of 'kharif' pulses and jowar was also available for sale with about 21 per cent and 18 per cent families (See table 4.12.a).

As wheat constituted the principal component of the farm families' diet, most of its production was normally consumed at home. Home grown wheat was further supplemented with maize and jowar/bajra grains raised during 'kharif' or foodgrain purchases made during later parts of the year. As such, a marketable surplus of 42 maunds of wheat was available with about 40 per cent of the sample farmers\*. Some marketable surpluses were also reported in the case of 'rabi' pulses and about 10 per cent of the

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\* Due to supplementing of wheat production with 'kharif' foodgrain supplies and later purchases, the amount of marketable surplus of wheat was initially high.

respondents reported marketing of Masoor. Table 4.12 below contains information on marketable surpluses by crop and farm size.

Table 4.12: Marketable Surplus of Major Crops on Sample Farms

(a) Kharif 1977

Farm Size	Groundnut	Kharif Pulses	Jowar	Bajra	Others
Small	12.3 (87)	2.9 (19)	10.9 (10)	3.6 (7)	6.0 (7)
Large	36.4 (93)	7.4 (22)	7.3 (26)	7.8 (21)	10.1 (15)
Total	24.7 (90)	5.3 (20.5)	8.3 (18)	6.7 (14)	8.8 (11)

(b) Rabi 1977-78

Farm Size	Wheat	Gram	Pulses	Oilseeds	Others
Small	21.8 (21)	10.5 (76)	6.1 (6)	3.4 (2)	-
Large	49.1 (58)	24.7 (90)	8.0 (13)	6.8 (3)	5.1 (2)
TOTAL	41.8 (39.5)	18.2 (83)	7.4 (9.5)	5.5 (2.5)	5.1 (1)

- \* Figures under each crop indicate average quantity in maunds of marketable surplus by farm size.
- \* Figures in parentheses indicate the percentage of respondents selling the crop.
- \* Other crops consisted mainly of Maize, gowara, sesamum etc. and 'rabi' crops like barley and oats.
- \* It may be noted that the survey year had bad wheat harvest,

As may be seen from table 4.12, marketable surpluses of groundnut, and gram were available with almost all the sample farmers. The surplus of these commodities over and above the amount required for domestic use (seed and consumption) was disposed of in the market.

In order to see the relationship between farm size and marketable surplus, the coefficient of correlation 'r' between the marketable surplus and the farm size was determined and its significance ascertained by applying the T test. The influence of farm size on variations in marketable was seen by computing the coefficient of determination ( $R^2$ ). The 'r' value came to 0.674 and the coefficient of determination ( $R^2$ ) as 0.4541. The results indicated a highly significant correlation at the 5 per cent confidence level implying that the variations in farm size accounted for a considerable variation in marketable surplus.

Livestock:- Livestock production is a good supplement to the farm income from crop produce. As such the sample farm families were raising sufficient income from livestock sales. (Table 4.13)

Table 4.13: Livestock Sales During the Year

	Bullocks			Cow/Bufaloes			Sheep/Goats		
	Average No. Sold	Farmers Selling	Average Amount (Rs)	Average No. Sold	Farm-er Selling	Average Amount (Rs)	Average No. Sold	Farmer Selling	Average Amount (Rs)
1	1.1	44 (44%)	2692.6	1.2	16 (16%)	1590.6	2.4	20 (20%)	704.5
e	1.2	52 (52%)	2955.2	1.1	22 (22%)	1877.3	10	10 (10%)	1432.0
L	1.2	96	2834.8	1.2	38	1756.6	4.9	30	947.0

:-

As the above table shows, about one half of the farmers sold 1 to 2 bullocks during the year and earned an average income of about Rs. 2835/- Milch animals sale generated an average amount of Rs. 1757. Sheep/goat were also sold by about 1/6th of the sample, which provided Rs. 947/- cash income to each farm family selling these animals.

Farm Family Consumption Needs:-

Family Structure:- As may be seen from table 4.14 most of the sample families were large in size, 70 per cent with members ranging between 5 to 10, and 21.5 per cent between 11 to 15 or above. The largest families con-

tained about 7 members including those living away from home. Only 8.5 per cent of the families contained less than 4 members.

Table 4.14: Family Structure of Sample Farm Household

Family Size Category	Family Composition*					
	Distribut- ion of Sa- mple House- holds		Child- ren**	Adults	Non-Family Members	Average Family Size
	No	%				
Under 5	17	8.5	5	52	-	3.4
5 - 10	140	70.0	323	689	17	7.4
11 - 15	34	17.0	136	270	9	12.0
16 and above	9	4.5	57	142	4	22.6
TOTAL:	200	100.0	521	1153	30	8.5

\* Number of respondents' families in each category.

\*\* Up to 12 years of age irrespective of sex.

Table 4.15 below shows family size distribution on farm size basis. As may be seen, majority (71 per cent small and 65 per cent large) of sample families had a fairly large family size ranging between 5 to 10 members. The proportion of small and large farm size families in other family size categories was relatively small.

Table 4.15: Family Size Distribution by  
Farm Size

Farm Size	Family Size				Total
	Under 5	5 - 10	11 - 15	16 and Above	
Small	23 (23)	71 (71)	6 (6)	- -	100 (100)
Large	18 (18)	65 (65)	12 (12)	5 (5)	100 (100)
TOTAL	41 (20.5)	136 (68)	18 (9)	5 (2.5)	200 (100.0)

The large family size for the majority of the farm households could be attributed mainly to the traditional joint family system prevalent in the rural areas. Most of the farm families live and cultivate land jointly, relieving some of the adult male members for off-farm work, to provide financial support to the family through remittances. This is a peculiar feature of 'barani' farming, where most of the productive labour prefers to be gainfully employed in off-farm work instead of engaging themselves in relatively less rewarding 'barani' farming. Non-family members like relatives, servants, residing with farm families also caused large family size.

Consumption Pattern:- Wheat is the main staple diet of the rural families in 'barani' areas. Maize and millets are the other foodgrains that supplement wheat. Groundnut is not a regular component of the diet and the major portion of production is sold in the market.

The average consumption level of major commodities (foodgrains, pulses and groundnut) is described in the following pages with respect to family size and farm size.

Table 4.16 indicates that sample families of all size categories purchased wheat, the average quantity per family being about 14 maunds. This suggests that the sample families were not self-sufficient in foodgrains. All families were purchasing at least some amount of wheat to meet their annual food requirements. The purchases varied with the family size, being larger in the case of large families. There was very little variation with regard to purchase of foodgrains within the smaller families. No purchase of gram and other pulses was reported, as home production was not only sufficient for domestic consumption but was also available as marketable surplus. In the case of wheat a peculiar phenomenon was also observed. Some of the farmers were found to have sold a part of their home produced wheat after harvest, but had to purchase some quantities in the later months of the year to meet their domestic requirements.

**Table 4.16: Average Production and Consumption of Wheat and other Crops Classified by Family Size**

Family Size	No. of Families	Wheat*			Gram		Pulses	
		Production	Consumption	Purchases**	Production	Consumption	Production	Consumption
Under 5	41	54.3 (100)	35 (100)	7.7 (39)	18.1 (92.7)	3.1 (82.9)	6.8 (22)	1.4 (17.1)
5 - 10	136	69.6 (100)	40.1 (100)	14.1 (50.7)	20.8 (93.4)	3.4 (82.4)	4.7 (47.8)	1.1 (29.4)
11 - 15	18	97.5 (100)	54.8 (100)	13.9 (61.1)	23.4 (88.9)	4.2 (83.3)	7 (72.2)	1.0 (55.6)
16 and Above	5	99.8 (100)	77.2 (100)	48.3 (60.0)	46.6 (100)	3.1 (100)	4.8 (60.0)	1.2 (40.0)
Weighted Average	200	69.7 (100)	41.3 (100)	14.1 (49.5)	21.2 (93)	3.4 (83)	5.2 (45.0)	1.1 (29.5)

\* All figures in maunds on per family basis. Pulses include both 'rabi' and 'kharif' pulses.

\*\* Average purchases of wheat during 1976-77.

Average consumption of various commodities on farm size basis is indicated in table 4.17 below. Inferior millets and pulses were the main 'kharif' products consumed by respondent families although the number of families was not very large. The average amount in these cases worked out to about 2.6 and 1.2 maunds respectively which did not vary much between farm sizes. In the case of ground<sup>nut</sup>/ the amount consumed/ annum was negligible but more than 60 per cent families consumed this product.

Table 4.17: Average Consumption of Major Crops on Sample Farms

<u>Kharif</u>						
Farm Size	Groundnut	Pulses	Jowar	Bajra	Other	
Small	0.6 (56)	0.8 (19)	2.2 (12)	3.2 (11)	3.2 (6)	
Large	1.4 (65)	1.4 (27)	2.8 (23)	2.4 (23)	1.6 (5)	
TOTAL	1.0 (60.5)	1.2 (23)	2.6 (17.5)	2.6 (17)	2.5 (5.5)	
<u>R a b i</u>						
Farm Size	Wheat	Av. Purchases Wheat	Gram	Pulses	Oilseed	Others
Small	30.7 (100)	12.9 (75)	2.3 (75)	0.7 (3)	0.9 (3)	-
Large	51.9 (100)	14.4 (25)	4.4 (91)	1 (9)	3.1 (8)	7.5 (2)
TOTAL:	41.3 (100)	14.1 (49.5)	3.4 (83)	1 (6.5)	2.5 (5.5)	7.5 (1)

Among the 'rabi' crops, wheat occupied the prominent position. The amount consumed by small farms was considerably lower (31 maunds) than large farmers who were consuming 52 maunds per family per annum. The proportion of gram consumers varied between 75 to 91 per cent with 2 to 4 maunds per household in both farm size categories. Pulses and other crops were consumed in very small amounts.

Marketable Surplus by Family Size:- A marketable surplus in the case of wheat was available from about 40 per cent of the sample farm families. Table 4.18 shows that the respondent families in all family size categories were selling some amount of wheat, the amount of marketable surplus with medium and large families was reported to be about 48 and 34 maunds of wheat, respectively. On the average, about 42 maunds of wheat was marketed by the sample farm households. The amount of marketable surplus decreased with the increase in family size.

As may be seen from tables 4.17 and 4.18, a relatively small proportion of the total gram and pulse production was being retained for home consumption. About 83 per cent of the sample households

reported the sale of gram as compared to 30 per cent selling 'rabi'/'kharif' pulses. The average size of the marketed quantity was 18 maunds in the case of gram, and 6 maunds in the case of pulses.

Table 4.18: Marketable Surplus of Major Crops by Family Size

Family Size	Sample Size	(in maunds)		
		Wheat	Gram	Pulses*
Under 5	41	27.4 (46.3)	16 (87.8)	7.6 (19.5)
5 - 10	136	48.2 (39)	17.7 (81.6)	5.9 (29.9)
11 - 15	18	34.3 (33.3)	20.2 (77.8)	5.3 (61.1)
16 and Above	5	20 (20.0)	39.6 (100)	4.8 (60)
Total Average	200	41.8 (39.5)	18.2 (83.0)	6.0 (30.0)

Figures under each crop show average quantity marketed by the sellers. Figures in parentheses show percentage of families selling in each category.

\* Pulses of 'kharif' and 'rabi' season.

Payments-in-Kind:- As traditionally customary in irrigated parts of the country, 'barani' farm families also engaged village artisans and other agricultural labour to get agricultural implements prepared and repaired, and also for other operations on a seasonal

or regular basis. These artisans generally work under the 'seyp' system and are usually paid in-kind according to the institutionally established rates.

The sample findings indicate that blacksmiths, carpenters and barbers were the three major artisans engaged by all the farm households. Payments to 'Imam Masjid' were made by all the sample farmers. Hired farm labour also shared a small proportion of such payments, particularly the payments made from groundnut for harvesting this crop.

The payments were made mainly from wheat and groundnut and also partly from gram. Table 4.19 gives the information on payments made in-kind.

Table 4.19: Payments-in-Kind by Farm Size on Sample Farms

Farm Size	(in maunds)		
	Wheat	Gram	Groundnut
<u>CHAKWAL</u>			
Small	5.1 (45)	1.8 (11)	5.4 (20)
Large	8.0 (54)	2.1 (22)	5.8 (36)
<u>DHUDIAL</u>			
Small	3.5 (51)	- -	2.2 (23)
Large	6.3 (46)	2.2 (5)	4.4 (29)
TOTAL	5.8 (98.8)	2.0 (19.0)	4.2 (54)

Figures in parentheses show the families making payments-in-kind as a percentage of the total sample households.  
\* For both the size categories taken together in the two market areas.

Table 4.19 shows that large farmers were making larger payments to the village artisans commensurate with the services obtained by them. The average payments made in the form of wheat and groundnut by all sample farmers were about 6.0 and 4.0 mounds respectively.

Farm Household Income:-

In 'barani' areas, agriculture is not the only source of household income. Off-farm employment is a common phenomenon in these areas as is evident from the fact that many family members of farm families were engaged in non-farm pursuits in our areas of study. While considering family income in the 'barani' areas, it is important to take into account the income from both the farm and the non-farm activities. Our study shows that among farm sources, the crop production activity contributed the largest share (64 per cent) to the gross family income. Livestock/livestock products was the other source of household income. The share of the income from the sale of animals and animal products was, however, larger on small farms compared to the large

farms (Table 4.20).

Table 4.20: Gross Income of Sample Households by Farm Size and Income Sources

Farm Size	Farm Income Sources			Non-Farm Income Sources		All Sources	
	Field Crops	Livestock/Livestock Products	Off-Farm Work*	Remittances (Family Member)	Others	Farm	Non-Farm
Small	2181.3 (45)	2662.9 (55)	4787.5 (38.5)	5874.2 (47.3)	1762.3 (14.2)	3992.0 (40.7)	5813.0 (59.3)
Large	7972.1 (72.5)	3029.6 (27.5)	6226.2 (33.2)	5075.0 (27.1)	7429.5 (39.7)	10183.7 (55.8)	8080.4 (44.2)
Wt. Average	5076.7 (64.0)	2852.7 (36.0)	5239.7 (32.5)	5474.6 (34)	5397.9 (33.5)	7087.9 (50.6)	6922.2 (49.4)

- Figures under each source indicate average amount in rupees per sample household.
- Figures in parentheses indicate percentage share of each income source in the total.
- \* Only the earnings of respondents themselves have been considered.

A highly significant correlation was observed between farm size and gross farm income. The value of 'r' figured out to 0.598 and that of  $R^2$  (coefficient of determination) as 0.3580, which supported the hypothesis that large farms had larger gross income.

Off-farm work was also an important source of income for both the small and large farmers, with

monthly income per self employed reporting farmer ranging between Rs. 399/- and Rs. 519<sup>\*</sup>/. Remittances from family members working off the farm were the major non-farm income source (47 per cent) in the case of small farmers. Average monthly remittances were reported to be Rs. 489/- and Rs. 423/- per family migrant, in the case of small and large farms, respectively<sup>\*</sup>. The large farmers were, however, getting more income from sources such as pension, suzuki van, etc., which constituted as much as 40 per cent of their non-farm income.

Taking all the income sources together, crop and livestock activities contributed about 51 per cent of the share of the gross farm household income. Non-farm income, on the other hand, contributed about 49 per cent of the total family income, both on small and large sized farms.

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\* Income from off-farm work(self) and remittances from family migrantson per family basis(reporting and non-reporting both) works out to Rs. 39.9 and Rs. 51.9 in the former case, and Rs. 48.9 and Rs. 42.3 in the later case respectively.

# P U N J A B

## C H A P T E R - V

### MARKETING ACTIVITIES OF FARMERS

#### Farmer Crop Marketing Calendar:-

Sale timings or seasonality of marketing have a direct impact on the commodity market prices. The proportion of volume marketed at harvest time or in the immediate post harvest months frequently serves as an index of holding capacity of the farmers. Greater sales at harvest time are one of the principal variants influencing the prices received by the farmers. The marketing pattern of major crops like groundnut, wheat, and gram discussed below, highlights the price phenomenon faced by farmers at the harvest and the post harvest months.

Groundnut:- Groundnut was the principal cash income generating crop for 'barani' farmers. Under the peculiar subsistence farming conditions and in view of a variety of family needs pressing for cash income, the sample farmers sold a large part (45 per cent) of their marketable surplus of this crop at harvest time. The entire balance of the marketable surplus was disposed of during the immediate post harvest months. The groundnut prices ranged between Rs. 80 to 125 per

maund during harvest months and between 85 and 150/- during the post-harvest months. The pricing structure showed considerable variation between the sale periods. It was found that the groundnut prices during post-harvest months remained higher and stable by Rs. 5/- to 25/- per maund, conforming to the usual seasonal behaviour of farm prices. Table 5.1(a) shows that no sales of groundnut were reported during the off-season periods as the purchases made during the harvest and post harvest months were sold to the buyers from the regional markets almost concomittantly.

The hypothesis that sale prices at harvest time were lower than post harvest prices was tested on the basis of difference-of-means crieterion. The difference in mean values was found to be significant as the mean value of 12.9 was greater than twice the standard error value of 2.604.

Table 5.1: Farmer's Marketing Calendar

(a) Kharif Crops

Sale Period*	Groundnut			Pulses		
	Respondent Selling**	Quantity Sold (mds)	Sale Price Range (Rs/Md)	Respondent Selling	Quantity Sold (Mds)	Sale Price Range (Rs/Md)
At Harvest Time	107	1995.3 (44.7)	80 to 125	13	48.8 (22.5)	60 - 120
Post Harvest Time	121	2463.8 (55.3)	85 to 150	33	168.3 (77.5)	40 - 125
Off-Season	-	-	-	-	-	-
TOTAL	228	4459.1 (100)	80 to 150	46	217.1 (100)	60 - 125

\* Commodity-wise sale periods.

<u>Commodities</u>	<u>Harvest Months</u>	<u>Post-Harvest Months</u>	<u>Off-Season Months</u>
Groundnut	October-November	December-February	March-September
Kharif Pulses	November-December	January-February	March-October

\*\*Multiple response: Sales of each farmer were distributed over various months within each sale period.

Figures in parentheses indicate proportion of produce marketed during different periods.

Kharif Pulses:- The above table also shows that about 23 per cent of the sample farmers sold some quantities of 'kharif' pulses like 'Mash' and Moong' to raise additional cash. The total quantity marketed was, however, small compared to that of groundnut. Of the farmers marketing 'kharif' pulses, 71.7 per cent reported the disposal of more than 2/3rd of their surpluses during the post harvest months. Sales in the harvest months were relatively small, while no sales were reported in the off-season.

Wheat:- As may be seen from table 5.1(b), marketable surplus of wheat was available with a little more than 1/3rd of the sample farmers. These farmers disposed of the major portion (52 per cent) of the saleable wheat during off-season months and the remainder during harvest (18 per cent) and the immediate post-harvest period (30 per cent). The off-seasonal sales of wheat were mainly on account of precautionary reasons. Wheat being the main staple foodgrain, the farmers preferred to hold on to their surpluses till another grain harvest (like maize) was assured, or the prospects of the next wheat crop were clearly known. Off-season sale of wheat also provided farmers cash when no other farm product was available for sale.

Table 5.1 (b): Farmer's Marketing Calendar

Rabi Crops

Sale Period*	Wheat			Gram			Pulses		
	Respon- dent Selling	Quantity Sold (Md)	Sale Price Range (Rs/Md)	Respon- dent Selling	Quantity Sold (Md)	Sale Price Range (Rs/Md)	Respon- dent Sell- ing	Quan- tity Sold (Md)	Sale Price Range (Rs/Md)
At Harvest Time	21	602 (18.2)	40 - 55	50	810 (26.8)	46-75	-	-	-
Post Harvest Time	21	993 (30.1)	50 - 65	119	2103 (69.6)	47-80	13	67 (47.5)	60 - 120
Off-Season	42	1708 (51.7)	50 - 70	1	109 (3.6)	60-100	6	74 (52.5)	100-- 110
TOTAL	84	3303 (100.0)	40 - 70	170	3022 (100.0)	46-100	19	111 (100.0)	60 - 120

Figures in parentheses give the sale in a given season as percentage of the total marketable surplus.

* <u>Commodity</u>	<u>Harvest Months</u>	<u>Post-Harvest Months</u>	<u>Off-Season Months</u>
Wheat	April, May, June	July, August, September	October- March
Gram	April, May, June	July, August, September	October- March
Rabi Pulses	April, May	June, July	August, - March

Grams- Gram was the main cash crop for all sample farmers during 'rabi' season (Table 5.1(b) ). The sale pattern of this crop indicates that the major portion (96 per cent) of the surplus gram produced was disposed of by more than 99 per cent of the sample farmers growing gram during the harvest and immediate post harvest months. Largest proportion of the total volume of sales was, however, made during immediate post harvest months. A price differential of Rs. 1 to 5 per maund was reported between harvest and post-harvest periods on various transactions. The prices during the off-season showed a sharp rise resulting in a differential of between Rs. 14 and 25 per maund between the harvest and off-season prices. However, the amount disposed of during the off-season was only about 4 per cent. This amount was retained primarily by large farmers with better financial position. Illustration 5.1 shows month-wise/period-wise sale pattern of major crops described above.

A weak correlation, as indicated by the 'r' value of 0.277, was found between farm size and the volume of sales at harvest time (from marketable surplus of all crops available with farmers). The reason for low 'r' value was that all farmers were

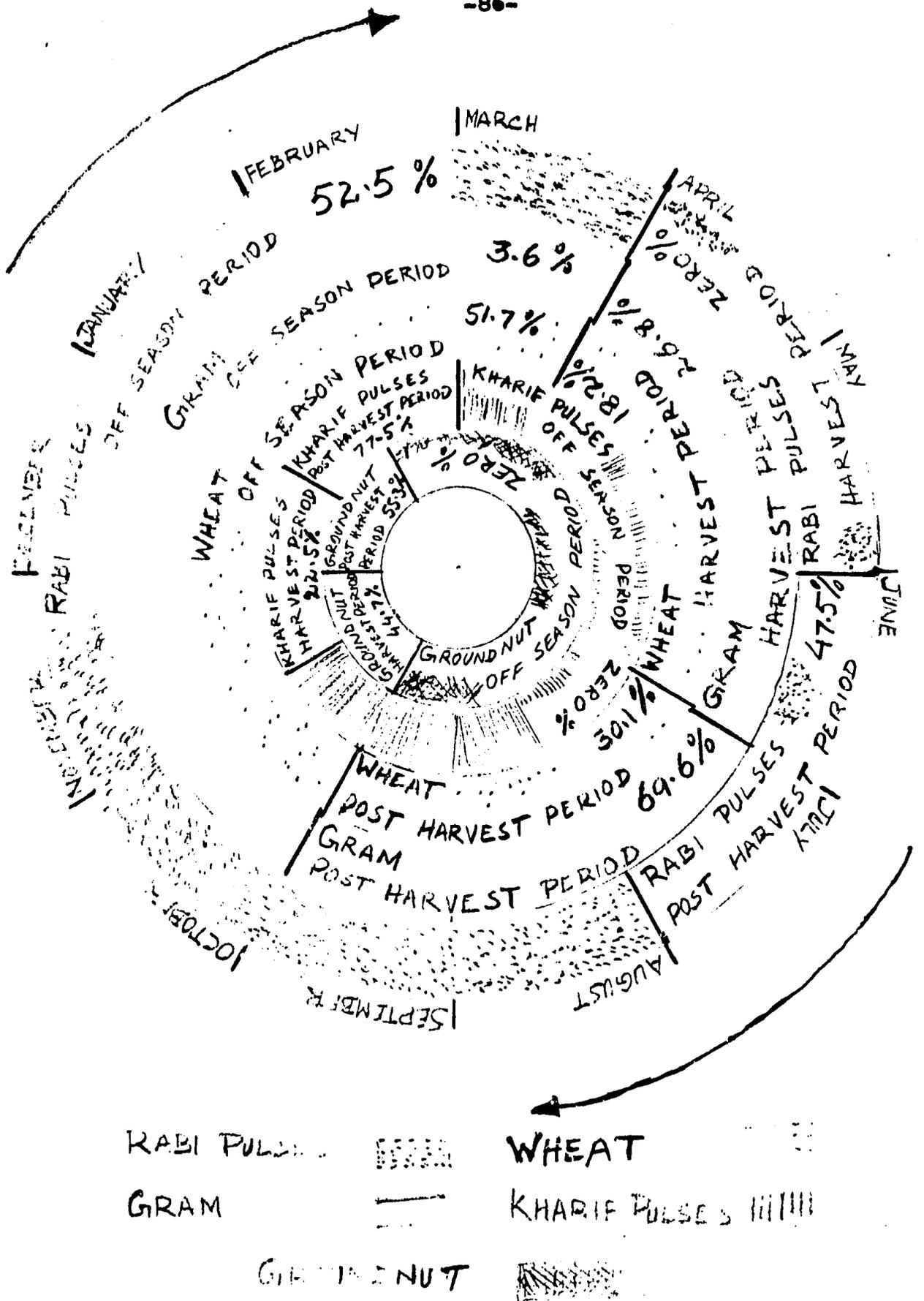


FIG. 5.1 FARMER MARKETING CALENDAR

TEHSIL CHAKWAL — PUNJAB

following a similar marketing pattern due to pressing family needs for cash. The hypothesis that large farms were making lesser sales at harvest time did not get any support from the results of statistical analysis.

Marketing Channels and Place of Sales:- The sample findings indicate that the principal channel for sale of the farm products was the commission agent, handling about 85 per cent of groundnut and 70 per cent of gram produce as estimated from the flow of business volume at various levels. The rest of the farm surpluses were channelled through the village 'beoparies' and the retailers. A small proportion of commodities was also directly sold to the consumers. Figures 5.2 and 5.3 show the marketing channels for groundnut and gram respectively.

The majority of the sample farmers preferred to sell their farm produce in the grain markets, anticipating competitive/high prices. Sales in the market was particularly a prominent pattern of the farmers in Chakwal area as about 85 per cent of the sample farmers disposed of their farm produce in this market due to its easy accessibility and better

Illustration 5.1

MARKETING CHANNELS FOR GROUNDNUT

CHAKWAL

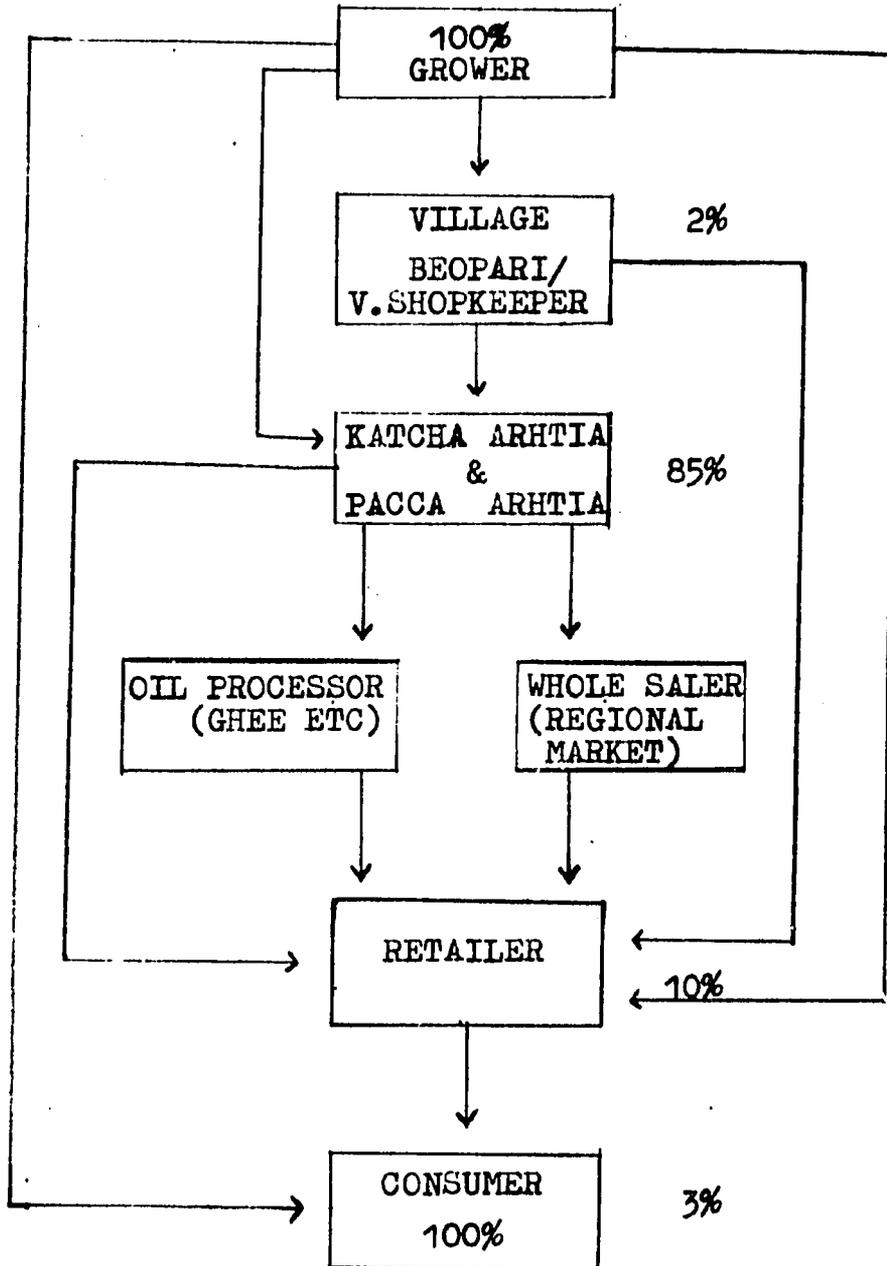
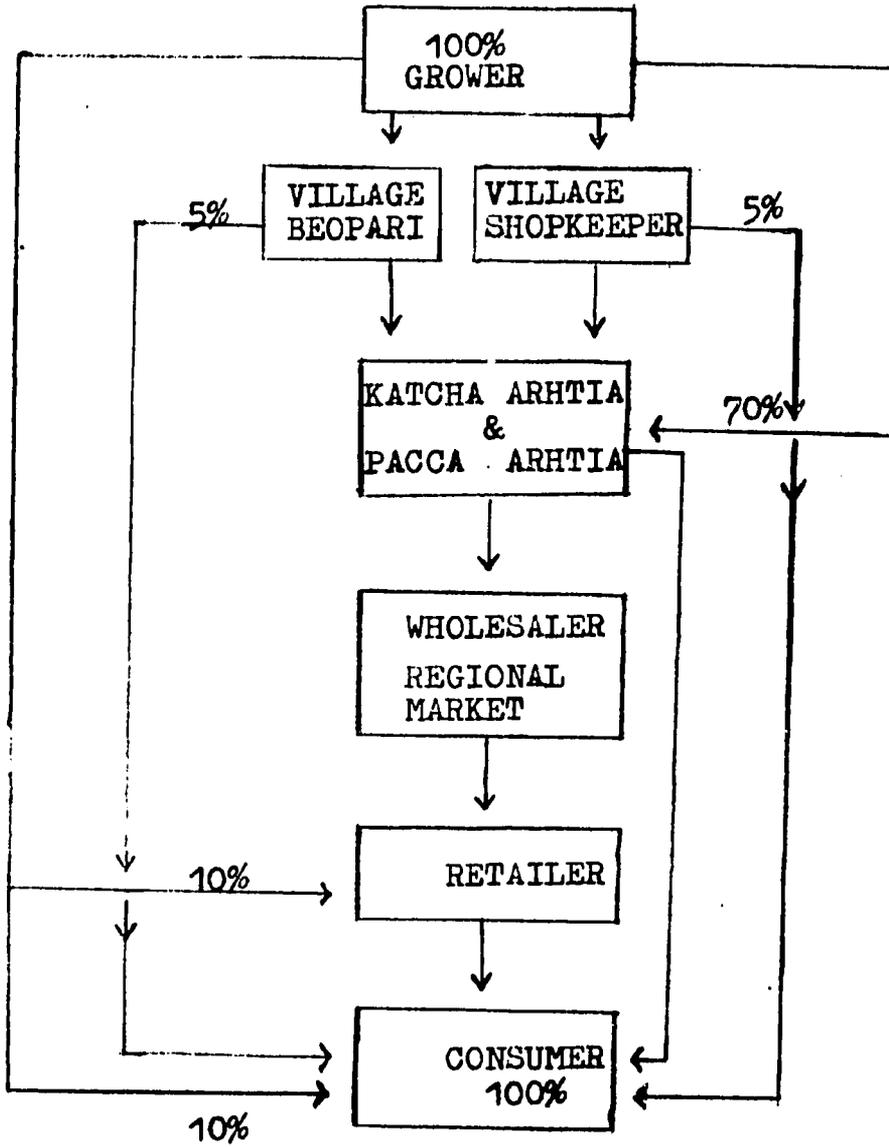


Illustration 5.2

MARKETING CHANNELS FOR GRAM

CHAKWAL



infrastructural facilities (see table 5.2).

Table 5.2: Farmers Classified by Place of Sale of Their Produce

Place of Sale	Farmers Selling		Total	
	Chakwal Area	Dhudial Area	No	Percentage
Chakwal Market	87	34	121	60.5
Dhudial Market	-	22	22	11.0
Chakwal and Dhudial Market*	-	7	7	3.5
Village Proper	7	9	16	8.0
Other Places**	8	26	34	17.0
TOTAL	102	98	200	100.0

\* Major sales were, however, made in Dhudial Market.

\*\* Includes sales partly made in the markets and partly in the villages.

On the other hand, the Dhudial market was found to be less preferred. Only about 22 per cent of the producers from villages in the surrounding areas were reported to be bringing their marketable surplus to Dhudial market. Almost an equal number (7 per cent) of the farmers in Dhudial area were selling their produce in Chakwal market, which was better organized and was also relatively more competitive.

A sizeable component of the farmers in Dhudial area (35 per cent) found both Chakwal and Dhudial markets as attractive and reported to be partitioning these two markets. Sales made through the village 'beopari'/village shopkeeper were limited to only a couple of farmers who had limited surpluses and found the village level prices equally attractive.

Factors Influencing:-

Choice of a Market:- The sample farmers reported several factors influencing their choice of a market and a buyer. The information contained in table 5.3 (a) shows that the most important considerations influencing the farmer's decision regarding choice of a market for the sale of farm products were the competitiveness and the organizational features of the market place. About 39 per cent of the sample farmers mentioned these two aspects of the market as the basic choice criteria. Accessibility (short distance) as a factor influencing the decision regarding the choice of a market was mentioned by about 28 per cent of the growers in our sample. Price differential and the type of road linkage were some other

factors reported by the farmers, that played some role in such decision making.

Table 5.3 (a): Factors Influencing Choice of Market

Farm Size	FACTORS				Total*
	Distance	Organized/Competitive Market	Better Price	Better Road/Transportation	
Small	50 (33.8)	50 (33.8)	37 (25.0)	11 (7.4)	148 (100.0)
Large	36 (23.1)	67 (43.0)	35 (22.4)	12 (11.5)	156 (100.0)
TOTAL	86 (28.3)	117 (38.5)	72 (23.7)	29 (9.5)	304 (100.0)

\* Multiple response.

Figures in parentheses indicate percentage of respondents.

Choice of a Buyer:- Table 5.3 (b) shows that personal acquaintance/relationship with the dealer was the major factor considered by both small and large farmers in the choice of a buyer of their farm produce. The farmers attached more importance to the personalised touch of the sale transactions as compared to the free play of market forces. This is evident from the fact that the largest number (85.5

per cent) of them preferred to sell their produce to those dealers with whom they had friendly relations/or the dealers belonging to their own village. Factors like better prices, credit facility and easy location of the dealer, per se, seemed to be of lesser importance to them. They were of the view that the dealers of their choice were morally obliged to offer them a comparable deal in respect of prices and credit facilities in order to safeguard against the loss of their clientele.

Table 5.3 (b): Factors Influencing Choice of a Buyer

Farm Size	Boarding/Lodging and Storage Facility	Ethnic Link with the Dealer	Better Price Credit Facility and Provision of other services	Total*
Small	2 (2.0)	86 (84.3)	14 (13.7)	102 (100)
Large	5 (4.5)	97 (86.6)	10 (8.9)	112 (100)
TOTAL	7 (3.3)	183 (85.5)	24 (11.2)	214 (100)

\* Multiple response in 14 cases.

Figures in parentheses indicate percentage of respondents mentioning a given factor.

Transportation of Farm Produce:-

The sample farmers, transported their farm produce either through hired or own means. The table 5.4 below shows that of the total sample respondents, 93 per cent used hired means of transport. Among the vehicular modes, the bus was found to be the most prominent, followed by the suzuki van on 'pacca' and 'kacha + pacca' routes (see table 5.4). A truck was used by a small number of farmers who had a large volume of marketable surplus. Among the pack animals, the camel ranked number one followed by the donkey.

The Suzuki van among vehicular modes and donkey among pack animals turned out to be the cheapest modes of transportation, with the average cost per mand of Rs. 1.50 and 1.2 respectively. The average transport cost for camel and donkey was comparable over short distances upto 10 miles. The frequency of use of vehicular modes of transport showed much variation over various distance ranges; and their use exhibited quite a proportional distribution for all distances, while animals modes were mainly confined to short distances. The average transportation cost/mand on 'kacha + pacca' roads was higher compared to the one charged on 'pacca' roads.

Table 5.4: Mode and Cost of Transport; by Type of Road and Distance of Markets

Mode of Transport	(Cost in Rs/Md)														
	Respondents Using		0 - 5 Miles				5 - 10 Miles				Above 10 Miles				Overall Average Cost
			Pacca		Kacha+Pacca		Pacca		Kacha + Pacca		Pacca		Kacha+Pacca		
	Hired Means	Own Means	No. of Resp.	Average Cost	No. of Resp.	Average Cost	No. of Resp.	Average Cost	No. of Resp.	Average Cost	No. of Resp.	Average Cost	No. of Resp.	Average Cost	
Donkey	11	10	8	1.0	2	1.50	-	-	1	2.0	-	-	4	4.12	
Camal	38	-	4	1.0	14	1.64	-	-	16	2.21	-	-	1	2	2.07
Van	26	-	9	1.05	3	1.33	4	1.50	8	2.0	1	2	37	2.10	1.51
Bus	94	-	14	1.50	6	2.0	4	1.25	8	1.87	25	1.96	1	2	1.91
Truck	8	-	-	-	-	-	-	-	2	1.25	5	1.80	-	-	1.68
Tractor/ Trolly	1	2	-	-	-	-	-	-	1	2.0	-	-	-	-	2.0
Tonga/Rehra	13	2	-	-	1	1.0	7	1.85	2	2.0	-	-	1	4.0	2.0

Other Marketing Expenses:-

The marketing expenses other than transport cost included octroi, handling charges (loading/unloading, packing), market fee, commission, and illegal deductions made by the dealers in the market. The average marketing expenses of a farmer for marketing groundnut were Rs. 4 per maund and Rs. 3 for other crops in Chakwal market, while such expenses amounted to Rs. 4 for all crops in Dhudial market. These expenses were in addition to farmer's personal expenses on items like transportation and food. A prominent malpractice in these markets was manifested in the charging of market fee to the growers instead of paying by the dealers to the market committee at the prescribed rate under the Market Act. Thus market fee was a lucrative source of income to the dealers for which they were providing no special service to the producers.

Trade Malpractices:- The sample farmers reported several malpractices prevalent among the dealers of farm products. As may be seen from table 5.5, under weighment, illegal deductions, and price collusion were the most important malpractices mentioned by 15

to 60 per cent of sample farmers. Low pricing was also an important malpractice reported by 5 per cent of the respondents. These malpractices were experienced and reported by most of the small and large farmers. However, about 4 per cent of the small and the large farmers seemed to be satisfied with the available marketing facilities and did not report any malpractice on the part of the dealers.

Table 5.5: Trade Malpractices Experienced  
by the Sample Farmers

Farm Size	Under Weighted	Illegal Deduction	Low Pricing	Price Collusion	No Malpractice	TOTAL
Small	17 (13.1) (38.6)	86 (66.2) (50.3)	6 (4.6) (40.0)	16 (12.3) (34.8)	5 (3.8) (45.5)	130 (100.0) (45.3)
Large	27 (17.2) (61.4)	85 (54.1) (49.7)	9 (5.7) (60.0)	30 (19.1) (65.2)	6 (3.8) (54.5)	157 (100.0) (54.7)
TOTAL	44 (15.3) (100)	171 (59.6) (100)	15 (5.2) (100)	46 (16.0) (100)	11 (3.8) (100)	287 (100.0) (100)

Figures in upper parentheses indicate relative position of responses about various malpractices experienced by each farm-size category, and those in the lower parentheses indicate their relative position between small and large farm size categories.

Training about new weights and measures recently enforced under metric system, and supervision by the market committee at the time of commodity arrivals and transactions were the two major suggestions put forth by the respondents for countervailing these malpractices. The need for training was emphasized in order to check malpractices on account of underweightment. Supervision was suggested because the Market Committee was not effectively looking after the grower's interest in the marketing farm products by supervising auction of produce in the market, ensuring correct weightment of produce, and dissemination of price information to them.

New Service Outlet:-

Most of the sample farmers located away from the market towns suggested opening of new service outlets either in their own village or in nearby centrally located villages. They expressed the view that these centres, besides procuring farm products, should also have farm machinery repair facilities and the supplies of P.O.L.

Market Information Use:-

All sample farm families used some means of collecting market price information before sale of

farm products, 'Fellow farmer;' was mentioned to be the chief source of information both by small (42 per cent) and large (41 per cent) farmers. Personal visit to the market and contact with the commission agent was another important method of collecting market information. One of the interesting findings of this study was that the use of formal sources such as, radio, newspaper or extension agent for obtaining price information was reported by a very small number of farmers. Regarding the timeliness and reliability of information, almost all farmers showed their satisfaction and expressed a high degree of confidence in the information supplied by their fellow farmers and commission agents. (Table 5.6)

Table 5.6: Market Information Sources Used by Sample Farmers

Farm Size	Personal Visit	Fellow Farmer	Commission Agent	Radio	Total
Small	51 (26.5)	80 (41.3)	27 (19.3)	24 (12.5)	192 (100)
Large	50 (24.5)	84 (41.2)	42 (20.6)	28 (13.7)	204 (100)

Figures in parentheses show percentage of respondents, who used more than one source.

The relationship between multiplicity of information sources used and the average prices (of groundnut) received was found insignificant, showing that the farmers were merely price takers due to market imperfections. The price information reaching the farmers through various media was based on the prices predetermined by the marketing activities of dealers. Thus it did not help the farmers to improve their bargaining position viz-a-viz the dealers. Hence the hypothesis that use of more information sources helped to get better prices/<sup>did</sup>not find statistical support.

Improvement Suggestions:-

The 'barani' farmers generally complained that the mass media did not give adequate coverage to the marketing of the products that they grew. The Extension Service was also not playing any meaningful role in the marketing of their farm products. Formal sources, therefore, were not being made use of by them.

Despite complaints about the price information communication system, a majority (79 per cent) of farmers could not conceive of valuable suggestions for

improving the system. Of those who offered some suggestions, a majority (14 per cent) of them suggested announcing price information twice a day through mass media giving full coverage to the major 'barani' crops like groundnut, gram and pulses. About 6 per cent of the farmers expressed the view that minimum support/procurement price of these major crops should be fixed to help them in negotiating a better price with dealers. They also desired that in situations of depressed market prices, the Government should make arrangements for purchase of 'barani' farm products at the guaranteed prices, as is being done in the irrigated areas.

Table 5.7: Suggestions for Improving Price Information Communication

Farm Size	No. Response*	Price Information Through Mass Media	Fixation of Minimum/Procurement Price	Others	Total
Small	88 (87.1) (55.7)	10 (9.9) (34.5)	3 (3.0) (27.3)	- - -	101 (100.0)
Large	70 (70.0) (44.3)	19 (19.0) (65.5)	8 (8.0) (72.7)	3 (3.0) (100.0)	100 (100.0)
TOTAL	158 (78.6) (100.0)	29 (14.4) (100.0)	11 (5.5) (100.0)	3 (1.5) (100.0)	201 (100.0)

\* No suggestions offered.  
 Figures in upper parentheses indicate relative position of responses within the same farm size category, while those in the lower parentheses show the proportion of responses given by small and large farm size categories.

Farm Storage Arrangements:

Storage Types and Capacity:- The major storage arrangements at the farm level consisted of mud bins and/or separate 'kacha/pacca' rooms, as is customary in other parts of the province. Table 5.8 shows that the majority (74 per cent) of small farmers used mud bins for storing their crops. Mud bins, however, accounted for about 45 per cent of total storage arrangements of the small farmers. Separate 'pacca' and 'kacha' rooms, though used by a relatively small number of farmers, provided the largest storage space (41 per cent) by 'pacca' rooms and 9.5 per cent by 'kacha' rooms. Mud bins were also used by the highest number (56 per cent) of large farmers but these provided only 17 per cent of storage capacity to these, followed by 'pacca' rooms used by 25 per cent of them but this arrangement accounted for the largest (70 per cent) proportion of the storage space with this category.

Table on next page.

Table 5.8: Farm Level Storage  
Types and Capacities

Farm Size	SMALL			LARGE		
	Storage Type	Respondents Using	Average Storage Capacity (Mds)	Storage Capacity as %age to Total	Respondents Using	Average Storage Capacity (Mds)
Mud-Bins	55 (73.3)	27.8	45.3	71 (56.3)	30.8	16.7
Steel Bins	5 (6.8)	30.0	4.5	17 (13.5)	43.2	5.6
Concrete Bin	-	-	-	-	-	-
Separate Kacha Room	4 (5.4)	80.0	9.5	7 (5.6)	148.6	7.9
Separate Pacca Room	10 (13.5)	137.6	40.7	31 (24.6)	294.8	69.8
<b>TOTAL</b>	<b>74 (100.0)</b>	<b>45.6</b>	<b>100.0</b>	<b>126 (100.0)</b>	<b>104</b>	<b>100.0</b>

Figures in parentheses give percentage of respondents using a particular storage type.

Farmers expressed a preference for room type storage and in most cases even the mud bins were either covered by a shed or were built inside a living room to save stored commodities from losses on account of rains.

On the whole, storage capacity was found related to farm size, large farmers had more than

double the storage capacity compared with small farmers. The test of correlation between farm size and storage capacity showed a significant relationship at the 5 per cent confidence level with an 'r' value of 0.641 and a coefficient of determination ( $R^2$ ) value of 0.415.

Storage Losses:- According to the estimates of the respondents, the average amount of storage losses in the case of wheat was about 3.8 per cent of the total produce stored. Reported losses were higher on small farms than on large farms. Storage losses in the case of gram were higher on large farms compared to the small farms because large farmers had relatively bigger quantities in store. In the case of groundnut, a major portion of which is disposed of immediately after harvesting, storage losses of between 4 to 10 per cent were reported. It is to be noted that the losses reported by the farmers were perceived losses and we made no effort to precisely measure these. (Table 5.9)

Table 5.9: Estimated Storage Losses

Farm Size	(in maunds)					
	WHEAT		GRAM		GROUNDNUT	
	Quantity Stored	Total Losses	Quantity Stored	Total Losses	Quantity Stored	Total Losses
Small	528.4	23.6 (4.5)	11.5	3 (2.6)	34.2	1.3 (3.8)
Large	2269.2	83.4 (3.7)	207	7.6 (3.7)	83	8.1 (9.7)
TOTAL	2797.6	107 (3.8)	218.5	7.9 (3.6)	117.2	9.4 (8.0)

Figures in parentheses indicate losses as a percentage of the total quantity stored.

Suggestions for Improving Storage Arrangements:-

In order to save losses occurring to stored crops, the farmers were asked if they had any preference for certain types of storage arrangements. As observed earlier, farmers did not show much concern about the storage arrangements and the storage losses. Hence, a majority (55 per cent) of the farmers mentioned that there was no particular need for improving the existing storage arrangements. The number of farmers indicating no preference was the highest among large farmers (see table 5.10). Only a small percentage (12 to 17 per cent) of the respondents thought that steel bin and 'pacca' room type storage would be better compared to the arrangements that they were presently having.

Table 5.10: Storage Type Preferred  
by the Sample Farmers

Farm Size	No Preference	Steel Bin	Pacca Room	Provide Pesti- cide	Wooden Planks	Total
Small	17.6	29.4	29.4	11.8	11.8	100
Large	64.2	13.4	7.5	10.4	4.5	100
TOTAL	54.8	16.7	11.9	10.7	5.9	100

Figures indicate percentage of respondent.

Treatment of Stored Crops:- Almost all the small sample farmers and 84 per cent of large farmers treated their crops against pests through indigenous method i.e. sun-drying. Large farmers, however, also used chemicals for protection of stored commodities. (Table 5.11)

Table 5.11: Treatment of Stored Crops

Farm Size	TREATMENT		TOTAL*
	Sun Drying <sup>†</sup>	Use of Chemicals	
Small	87 (93.5)	6 (6.5)	93** (100)
Large	96 (84.2)	18 (15.8)	114 (100)
TOTAL	183 (88.4)	24 (11.6)	207 (100)

\* Multiple Responses.

\*\* Seven small farmers did not treat crops, due to small marketable surplus.

Figures in parentheses indicate percentage of respondents using a given type of treatment.

Grading of Products:- As may be seen from table 5.12, 78 per cent of the respondents were not grading their products before marketing. Due to the subsistence nature of 'barani' farming and low marketable surpluses, grading was considered of limited significance by the growers. The other reason for this could be the absence of official grades that may be followed for grading of crops. Between 15-29 per cent of the respondents reported some crude type of grading, mainly in the case of groundnut.

Table 5.12: Grading of Crops

Farm Size	Respondents Grading	Respondents not Grading	TOTAL
Small	15 (15)	85 (85)	100 (100)
Large	29 (29)	71 (71)	100 (100)
TOTAL	44 (22)	156 (78)	200 (100)

Figures in parentheses indicate percentage of respondents.

Purchase of Farm Inputs:- Due to the uncertain and low rate of natural precipitation, resource productivity in 'barani' agriculture is very poor. Farming is essentially a part time and subsistence activity. Modern farm inputs, that are cash intensive, have therefore found a very limited acceptance with the 'barani' farmers. This is well borne out by the information given in table 5.13 below.

Table 5.13: Use of Farm Inputs(Fertilizer)

Farm Size	Fertilizer Use				Financing Purchase			
	Urea	D.A.P.	Urea and D.A.P.	Non-Users	Total	Cash	Credit	Total
Small	21 (21)	3 (3)	22 (22)	54 (54)	100 (100)	44 (95.7)	2 (4.3)	46 (100)
Large	13 (13)	4 (4)	43 (43)	40 (40)	100 (100)	53 (88.3)	7 (11.7)	60 (100)
TOTAL	34 (17)	7 (3.5)	65 (32.5)	94 (47)	200 (100)	97 (91.5)	9 (8.5)	106 (100)

Figures in parentheses indicate percentage of respondents.

The table shows that about 53 per cent of the respondents mentioned using some quantities of Urea, DAP or both DAP and Urea on part of their cropped acreage. The percentage of users was, however, higher in the case of small farmers compared to the large farmers. Financing of fertilizer purchases was mainly with their own funds, and reliance on credit sources, both institutional and non-institutional, was negligible. The study showed that the use of improved farm inputs was almost negligible on the sample farms. Fertilizer was the only major input purchased by some of these farmers. No farmer reported to have purchased any pesticides, improved seed, and implements. Home produced seed was the exclusive source of seed supply, both for the small and large farms.

Credit Utilization:- Of the total sample farmers, only 14 per cent reported the use of credit. Altogether 27 loans were taken by the sample farmers, out of which 68 per cent from institutional sources and 32 per cent from non-institutional sources. However, in terms of the borrowed amount, 78 per cent came from the institutional sources. These sources accounted for only 28 per cent of loans in the case of

small and 78 per cent of the loans obtained by the large farmers. Low use of credit was probably due to the availability of cash through private family remittances. (Table 5.14)

Table 5.14: Credit Use by Sample Farmers

Farm Size	Credit Use		Source of Credit		Purpose of Credit		
	Non-User	User	Institutional	Non-Institutional	Domestic	Agriculture Purposes	Total
Small	90	10	9800 (50) (28.2)	25000 (50) (71.8)	4 (40)	6 (60)	10 (100)
Large	82	18	102109.5 (77.8) (94.6)	5850 (22.2) (5.4)	4 (22.2)	14 (77.8)	18 (100)
TOTAL	172	28	111909.5 (67.9) (78.4)	30850 (32.1) (21.6)	8 (28.6)	20 (71.4)	28 (100)

Figures show total amount of credit in rupees obtained from different sources. Figures in upper parentheses show the percentage of respondents using credit, while the lower parentheses show the percentage of credit used from each source.

Regarding the use of credit, 71 per cent of the loans were taken for agricultural purposes such as the purchase of livestock, tractor, fertilizer and some components of the Persian Wheel. Large farmers borrowed funds to meet some of their agricultural production costs with the loan amount. Whereas, 40 per cent of the small farmers used loans for domestic needs. As use of credit for financing of agricultural needs was not a common practice among the sample farmers, no meaningful suggestion relating to credit was put forth by them.

The farm size and credit (both agriculture and domestic needs) use showed very weak relationship ('r'=0-115 and  $R^2 = .0132$ ) implying that credit utilization probably depended on other factors like accessibility to credit source, timeliness of credit availability, use of remittances, and farmers' attitude toward credit use, etc.

Farmer General Problems:- The farmers were asked to mention their general problems relating to farming. Lack of irrigation water was the major problem mentioned by 41 per cent of the sample farmers, while pest/rodent attack unlevelled land and land fragmentation were other problems of a higher magnitude. Some farmers also complained about the unsatisfactory performance of the :

Agri. Extension worker and suggested that the functioning of extension service be improved so that they could get technical advice on the problems specific to 'barani' farming.

Table 5.15: Farmers Major Problems

Market Area	Lack of Irrigation Water	Poor Road Linkage	Uneven & Eroded Fields	Fragmentation of Holding	Water Logging	Pest, Insect and Rodent Attack	Poor Extension Service	High Charges of Agriculture Machinery	Total
Chakwal	70 (44.3)	10 (6.3)	9 (5.7)	12 (7.6)	17 (10.8)	27 (17.1)	3 (1.9)	10 (6.3)	158 (100)
Dhudial	67 (37.8)	11 (6.1)	13 (7.4)	13 (7.4)	13 (7.4)	33 (18.6)	7 (4.0)	20 (11.3)	177 (100)
TOTAL:	137 (40.8)	21 (6.3)	22 (6.5)	25 (7.5)	30 (9.0)	60 (17.9)	10 (3.0)	30 (9.0)	335 (100)

Figures in parentheses indicate percentage of farmers.

P U N J A B

C H A P T E R - VI

MARKETING PRACTICES OF DEALERS

Dealer Business Profile

Commodities Handled:- The business pattern of sample dealers was diversified and according to the cropping pattern of the sample 'barani' areas. They were dealing in almost all commodities grown in the area and offered by the growers for sale. The table 6.1 shows that the majority (53 per cent) of sample dealers were handling 4 or more than 4 commodities\*.

The number of commodities handled was found related to dealership size. A larger proportion (62.5 per cent) of large dealers were handling more than four commodities, while majority (56 per cent) of small dealers were dealing in less than four commodities. It was also observed that no large dealer handled less than two commodities, whereas 12 per cent of the small dealers were handling only two commodities.

Table 6.1: Commodities Handled by Dealership Size\*

Size of Dealers	Commodities Handled		Total
	Upto four	Over four	
Small	9 (56.3)	7 (43.7)	16 (100)
Large	6 (37.5)	10 (62.5)	16 (100)
TOTAL:	15 (46.8)	17 (53.2)	32 (100)

Figures under each column show the number of respondents. Figures in parentheses indicate the %age of dealers in each category.  
\*Groundnut and gram was handled by all dealers, while mash, guara, wheat, oilseed and other pulses were handled by a varying number of dealers.

The major commodities handled by all small and large dealers were groundnut and gram. Mash, guara and wheat were other commodities, of relatively lesser importance, handled by 50 to 63 per cent of the dealers. The commodities were mainly assembled by the dealers through farmers or village 'beoparies', while self-assembling formed a minor proportion of total business. None of the dealers, however, was involved in distribution of farm inputs.

Volume Handled, Seasonal Variability  
and Business Pattern

The dealers included in our sample were doing business in farm products both in the 'kharif' and 'rabi' seasons. Of the total volume of commodities handled, 'kharif' business volume constituted 69.6. per cent, while the commodities traded in 'rabi' season accounted for the balance (table 6.2 a,). Groundnut was the major commodity traded in 'kharif' season and gram in 'rabi'. Business volume varied with dealer size during both the seasons. As may be seen from table 6.2 (a), small dealers handled 15.5 per cent of 'rabi' crops as against 84.5 handled by large dealers. Similarly, during 'kharif' the largest share (70 per cent) of the commodities traded in was handled by large dealers (table 6.2 a,).

Table 6.2 (a): Volume of Commodities Handled Classified by Season and Dealership Size

(Figures in Maund)

Size of Dealer	Rabi			Kharif			Total		
	Own Account	Commission	Total	Own Account	Commission	Total	Own Account	Commission	Total
Small	3017 (30.6) (14.5)	6834 (69.4) (16.0)	9851 (100) (15.5)	10545 (24.0) (35.4)	33365 (76.0) (28.8)	43910 (100) (30.2)	13562 (25.2) (26.8)	40199 (74.8) (25.4)	53761 (100) (25.7)
Large	17795 (33.2) (85.5)	35829 (66.8) (84.0)	53624 (100) (84.5)	19285 (20.0) (64.0) (5.0)	82313 (81.0) (71.2)	101598 (100) (69.8)	37080 (23.9) (73.2)	118152 (76.1) (74.6)	115222 (100) (74.3)
TOTAL:	20812 (32.8) (100)	42663 (67.2) (100)	63475 (100) (100)	29830 (20.5) (100)	115678 (79.5) (100)	145508 (100) (100)	50642 (24.2) (100)	158341 (75.6) (100)	208983 (100) (100)

Figures in the upper parentheses give relative position of responses within each size category while those in the lower parentheses indicate the position of responses within small and large category.

Table 6.2 (b): Business Volume Variability by Sale Period and Business Practice

(in maunds)

Size of Dealer	Peak*			Slack*			Total*		
	Own Account	Commission	Total	Own Account	Commission	Total	Own Account	Commission	Total
Small	12965 (25.7) (27.0)	37511 (73.3) (27.0)	50476 (100) (27.0)	597 (18.2) (23.0)	2688 (81.8) (14.0)	3285 (100) (15.1)	13562 (25.2) (26.8)	40199 (74.8) (25.4)	53761 (100) (25.7)
Large	35080 (25.7) (73.0)	101657 (74.3) (73.0)	136737 (100) (73.0)	200 (10.0) (77.0)	16485 (90.0) (86.0)	18485 (100) (94.9)	37080 (23.9) (73.2)	118142 (76.1) (74.6)	155222 (100) (74.3)
TOTAL:	48045 (25.7) (100)	139168 (74.3) (100)	187213 (100) (100)	2597 (11.9) (100)	19173 (88.1) (100)	21770 (100) (100)	50642 (24.2) (100)	158341 (75.8) (100)	208983 (100) (100)

\* Dealer's peak business period refers to the sum total of all periods in which commodity arrivals in the market are maximum and slack period means when commodity inflow is relatively less. For example, groundnut business conducted during November to January, grain business during May to July would constitute dealers' peak period and the rest of the month as slack period for these commodities.

Figures in upper parentheses give relative position of responses within same size category while the lower parentheses indicate position of responses within small and large size categories.

As may be seen from table 6.2(b), sample dealers were handling commodities in two ways: (a) purchases/sale on their own account and (b) on commission basis. The sample dealers' business pattern shows that commission business was predominant both in Rabi and Kharif seasons as it formed between 69 and 76 per cent of the total business. This pattern was primarily followed with the objective of securing against risk of price instability and was mainly followed by 'kacha' or 'kacha-pacca arhtia's' (table 6.2. b, ).

The business activity was most hectic during harvest and post harvest months. About 90 per cent of the total business was conducted during the peak period and the rest during the slack period. Trading on commission basis constituted almost 76 per cent of the total business, while the rest of the purchases and sales were on the dealers' own account. About 74 per cent of the peak business and 88 per cent of the slack period was on commission basis. The slack period business consisted mainly of balances carried over from the peak period to gain advantage of the rise in prices over time. The proportion of volume handled by small and large dealers during peak and slack periods on commission and on their own account did not show much variation. However, small dealer business volume was only about 26 per cent of the total business as compared with large dealers

who were controlling about  $\frac{3}{4}$ th of the total business in the Dhudial and Chakwal markets.

The hypothesis that large dealers were doing more business on their 'own account' compared to small dealers was tested. The hypothesis was accepted as the 'r' value figured out to 0.55 with 't' value of 4.32, implying a highly significant relationship at 5 per cent level of confidence.

Market Price Structure:- Market price structure (of purchases/sales) is discussed with reference to both the sample markets and both the business periods considered in analysis. As may be seen from the table below, groundnut purchase prices in Chakwal market during the peak period varied between Rs. 101/- and 140/- per maund, while the price range during slack period was between 111/- to 140/- per maund. A majority (70 per cent) of the dealers in Chakwal market purchased groundnut during peak period at prices ranging between Rs. 111/- and 130/- per maund. Purchases of groundnut in slack period were on the other hand at prices of between Rs. 111/- and 130/- per maund. In Dhudial market, the purchase prices, both in the peak and the slack season were lower compared to that of Chakwal market (table 6.3).

Table 6.3: Market Price Structure

GROUNDNUT

A - Peak Period

Price Ranges Rs./md.)	Purchase		Sale		Total	
	Chakwal	Dhudial	Chakwal	Dhudial	Chakwal	Dhudial
80 - 90	-	4 (10.8)	-	1 (2.8)	4 (7)	1 (2.2)
91 -100	-	8 (21.6)	-	3 (8.3)	8 (14)	3 (6.7)
101-110	3 (15)	14 (37.8)	-	16 (44.4)	17 (29.8)	16 (35.5)
111-120	5 (25.0)	8 (21.6)	4 (44.5)	9 (25.0)	13 (22.8)	13 (28.9)
121-130	9 (45.9)	3 (8.2)	2 (22.2)	7 (19.5)	12 (21.1)	9 (20.0)
131-140	3 (15.0)	-	3 (33.3)	-	3 (5.3)	3 (6.7)
Total	20 (100)	37 (100)	9 (100)	36 (100)	57 (100)	45 (100)

Figures in the parentheses indicate the percentage of respondents.

B - Slack Period

80 - 90	-	1 (25.0)	-	-	1 (11.1)	-
91 -100	-	1 (25.0)	-	1 (25.0)	1 (11.1)	1 (20.0)
101-110	-	-	-	1 (25.0)	-	1 (20.0)
111-120	1 (20.0)	1 (25.0)	-	1 (25.0)	2 (22.2)	1 (20.0)
121-130	4 (80.0)	1 (25.0)	-	1 (25.0)	5 (55.6)	1 (20.0)
131-140	-	-	1 (100)	-	-	1 (20.0)
Total	5 (100)	4 (100)	1 (100)	4 (100)	9 (100)	5 (100)

Figures in the parentheses indicate percentage of respondents.

The purchase prices were often lower in Dhudial market by approximately Rs. 20 per maund as 69 per cent of sample dealers purchased groundnut within price range of Rs. 80 to 110 per maund. This supports the earlier finding that farmers of Dhudial area were also selling in Chakwal market and suggests that: (i) Dhudial was a secondary, less organized and less competitive market without direct contacts with any major buying markets, (ii) the total volume of marketable surplus in Dhudial market area was not large, thus discouraging large dealers from pursuing more vigorous purchasing campaigns and (iii) the market was not easily accessible as it was located in the congested part of Dhudial village. The farmers having direct link with Chakwal market preferred to sell their crop there.

Purchases during slack season were very small and were mainly made at price range of Rs. 121 and 130 in Chakwal market and between Rs. 90 and 131 per maund in Dhudial market.

The phenomenon of seasonal variability of groundnut arrivals<sup>\*</sup> and the consequent price levels, as discussed earlier, is illustrated in Figure 6.1 and 6.2. As may be seen, groundnut prices were lower during high arrival periods. The prices touched the maximum level of the prices prevailing during the previous months when arrivals were the lowest, showing the usual relationship between commodity arrivals and prices.

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\* Arrivals refer to dealer purchases of the commodity made during the season.

Figure 6.1 Groundnut Arrivals.

PUNJAB

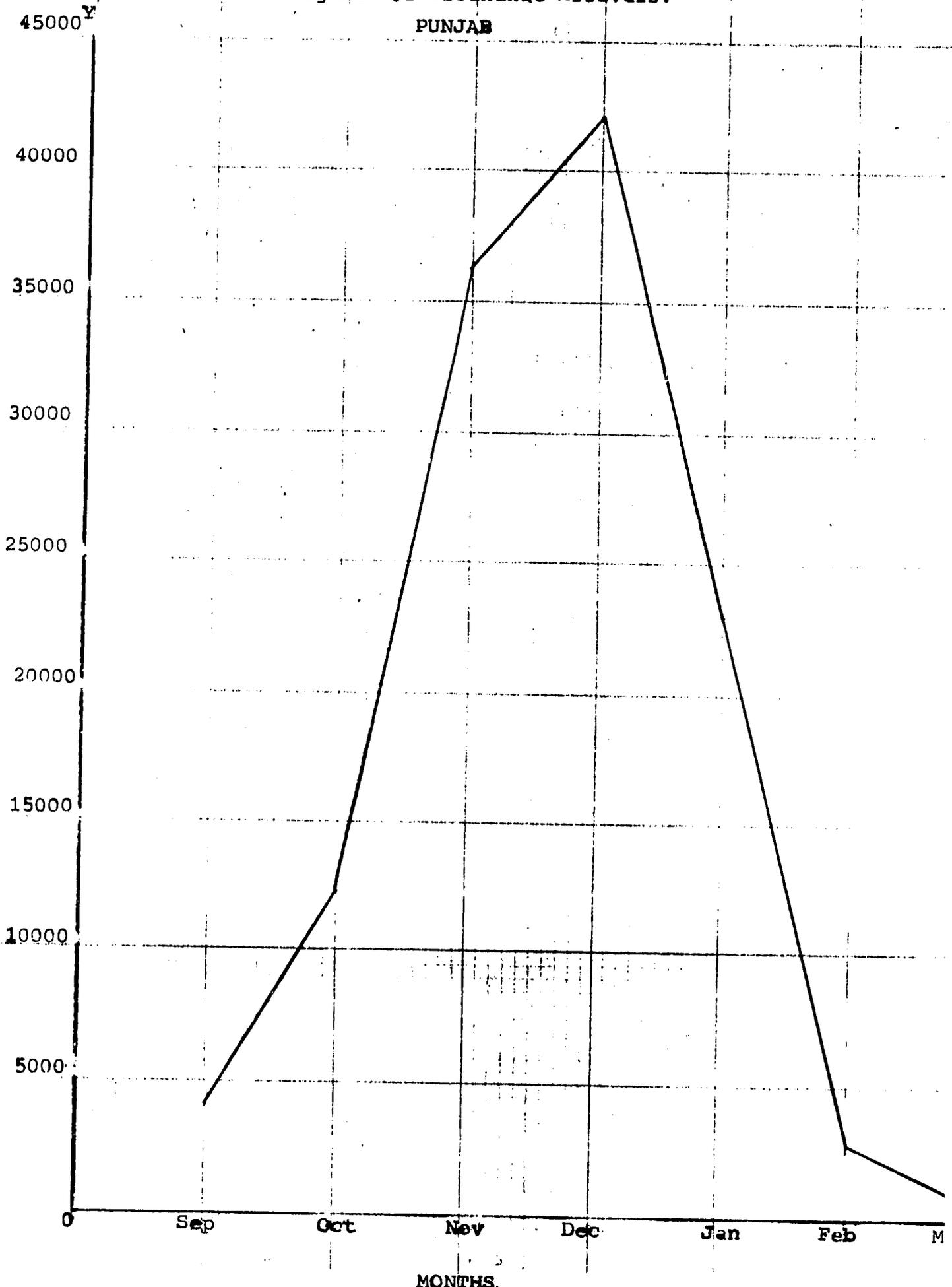
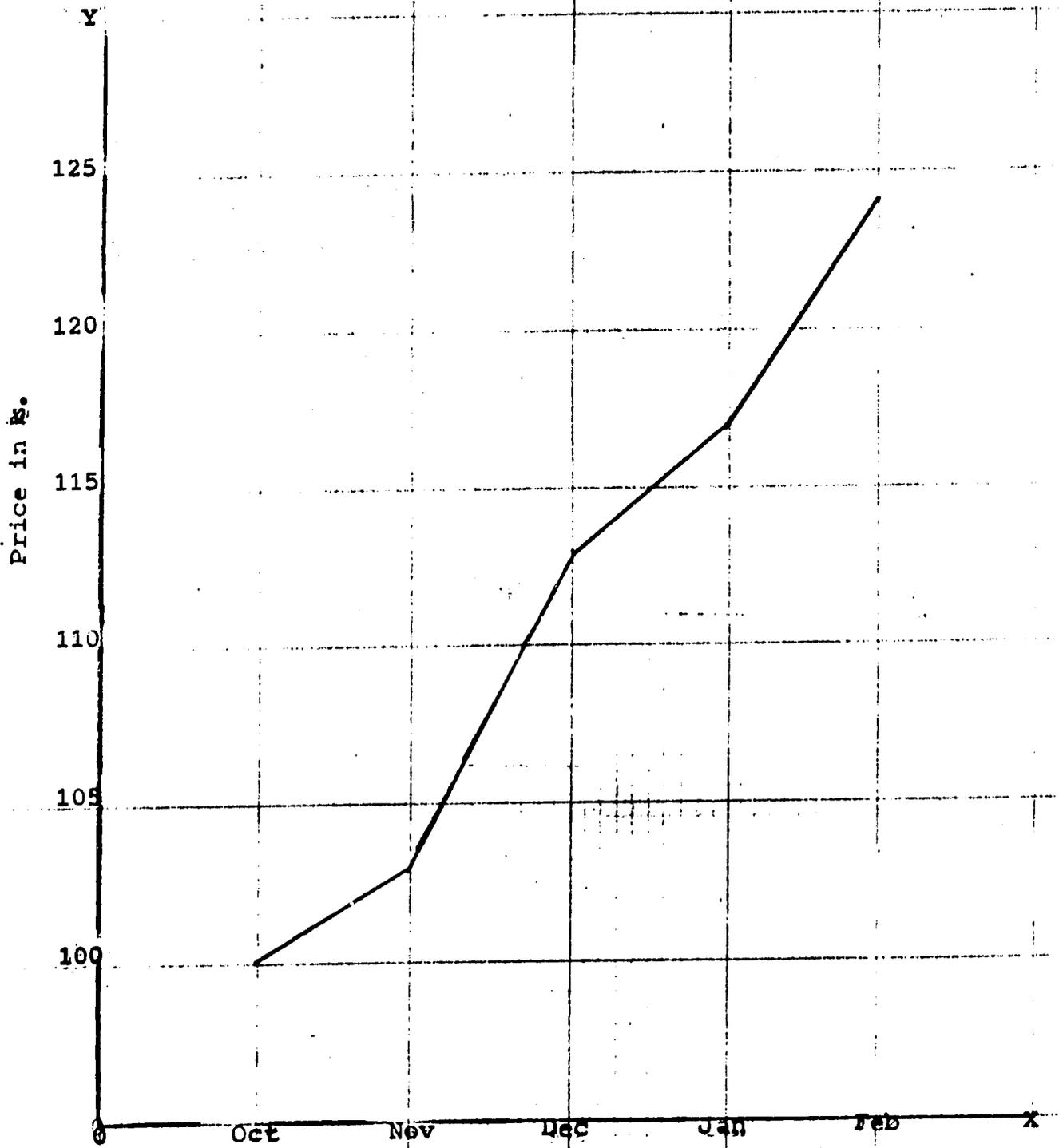


Figure 6.2 Groundnut Prices.

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Gram:- The purchase and sale transactions of gram were reported for the peak season only, because the survey did not cover the slack period of gram business. It was also observed that gram purchase prices were higher in Chakwal compared to Dhudial market as larger number of dealers (46 per cent) in Chakwal purchased this commodity at Rs. 71 to 75 per maund. Whereas, a sizeable proportion of dealers (41 per cent) reported their purchase of gram between Rs. 60 and 65 per maund. The reasons for this price differential between Chakwal and Dhudial markets were the same as explained earlier under groundnut (see table 6.4).

Table 6.4: Market Price Structure

GRAM

Peak Season

Price Ranges Rs./Md.	Purchase		Sale		Total*	
	Chakwal	Dhudial	Chakwal	Dhudial	Chakwal	Dhudial
60 - 65	3 (23.1)	12 (41.4)	-	2 (9.5)	15 (35.7)	2 (7.1)
66 - 70	3 (23.1)	11 (37.9)	2 (28.6)	13 (61.9)	14 (33.3)	15 (53.6)
71 - 75	6 (46.1)	6 (20.7)	2 (28.6)	6 (28.6)	12 (28.6)	8 (28.6)
76 - 80	1 (7.7)	-	3 (42.8)	-	1 (2.4)	3 (10.7)
TOTAL	13 (100)	29 (100)	7 (100)	21 (100)	42 (100)	28 (100)

\* Multiple response.

Figures in parantheses indicate percentage of respondents.

Marketing Calendar:- The marketing variability of commodities handled by dealers on their own account and on commission basis during peak and slack periods/season is discussed here with reference to three major 'barani' crops, i.e. groundnut, gram and guara. As the information contained in table 6.5 indicates, 92 per cent of the total quantity of groundnut handled by large dealers on their own account, about 92 per cent was disposed off during the peak months (November, December and January) of business. Similarly, 82 per cent of the groundnut purchased on a commission basis was also sold by dealers during the peak period, while the balance being dealt in the slack season. The small dealers, however, disposed of a larger proportion of the groundnut (97 per cent and 93 per cent) handled on own account and commission basis respectively during the peak period, compared to large dealers. It seems that the large dealers were able to defer the sales to slack season because of their better holding capacity and were thus able to gain from the price increase in the post 'peak' period months.

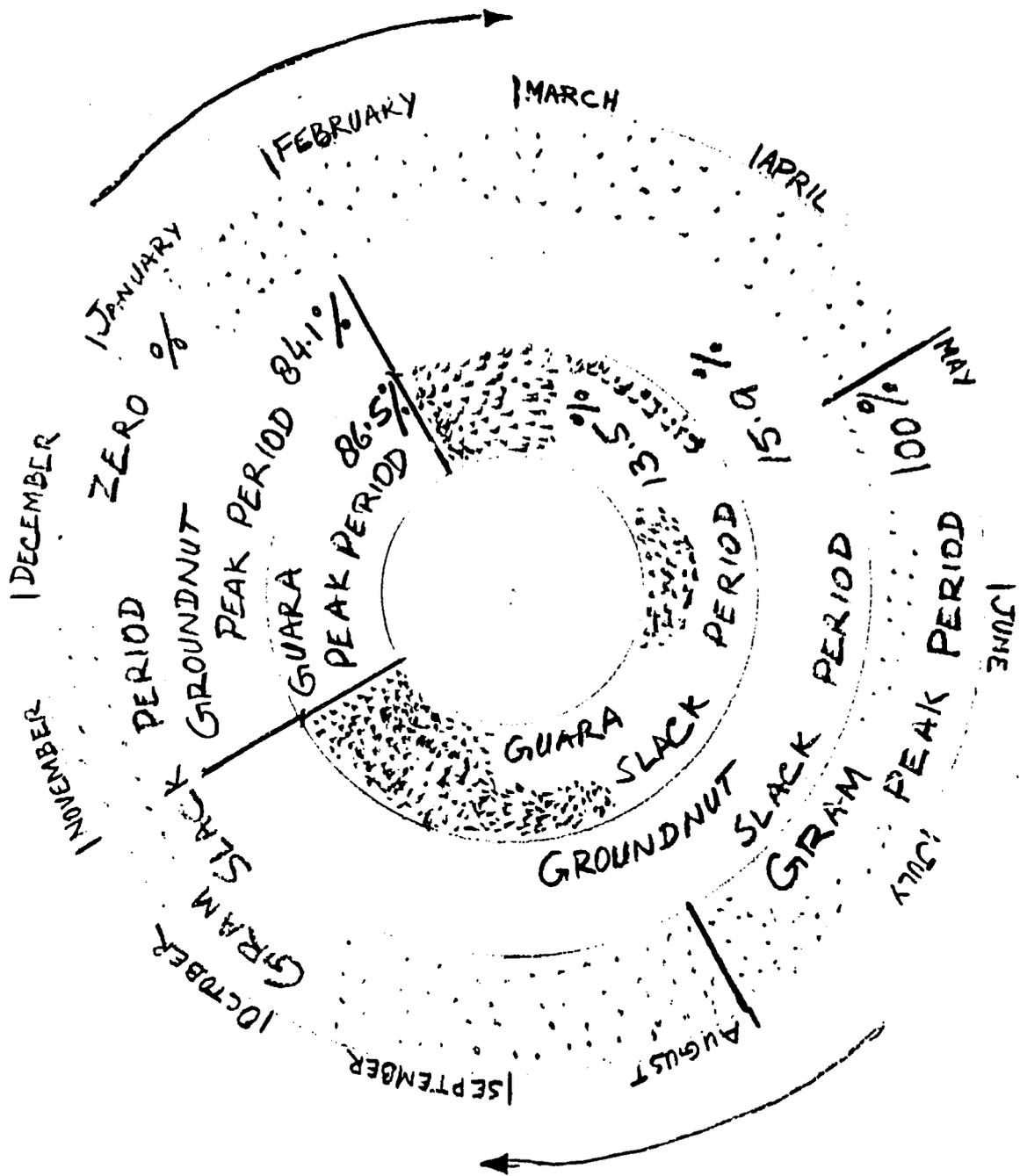
The marketing pattern of gram was different, however, from that of the groundnut. Both the small and the large dealers disposed of the total amount of the gram purchased during the peak period. However, in the case of guara, the pattern was observed to be similar to that of groundnut, the major handling/disposal occurring during the peak period, with some

sales also taking place during the slack months. (see table 6.5). Figure 6.3 (a,b) explain the phenomenon of seasonality of marketing for the major commodities like groundnut, guara and gram on the basis of total business volume handled on their own account and on commission basis. The figures in the table do not exactly reconcile with the percentages given in the figure 6.3, because the latter are worked out on own account and commission basis separately.

Table 6.5: Marketing Calendar of Major Crops Purchased by Dealer Size  
(in maunds)

Commodities	Own Account			Commission Basis		
	Peak	Slack	Total	Peak	Slack	Total
<u>Groundnut</u>						
Small	8070 (97.2)	230 (2.8)	8300 (100)	28180 (92.9)	2150 (7.1)	30330 (100)
Large	14268 (88.6)	1840 (11.4)	16108 (100)	51390 (77.3)	15060 (22.7)	66450 (100)
Total	22338 (91.5)	2070 (8.5)	24408 (100)	79570 (82.2)	17210 (17.8)	96780 (100)
<u>GUARA</u>						
Small	1783 (88.7)	228 (11.3)	2011 (100)	1668 (94.6)	95 (5.4)	1763 (100)
Large	520 (76.5)	160 (23.5)	680 (100)	1770 (81.2)	410 (18.8)	2180 (100)
Total	2303 (85.6)	388 (14.4)	2691 (100)	3438 (87.2)	505 (12.8)	3943 (100)
<u>Gram</u>						
Small	2580 (100)	-	2580 (100)	5750 (100)	-	5750 (100)
Large	16260 (100)	-	16260 (100)	29590 (100)	-	29590 (100)
Total	18840 (100)	-	18840 (100)	35340 (100)	-	35340 (100)
Groundnut-----Peak Period (Nov. Dec. Jan.)						
Guara: -----" " -do-						
Gram-----" " (May, June, July)						

Figures in parentheses indicate relative position of responses within the same size category.



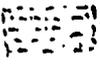
GRAM  GROUNDNUT   
 GUARA 

FIG. 6.3(a) DEALER MARKETING CALENDAR  
(PURCHASES)

TEHSIL:

CHAKWAL — PUNJAB  
 1977 — 1978

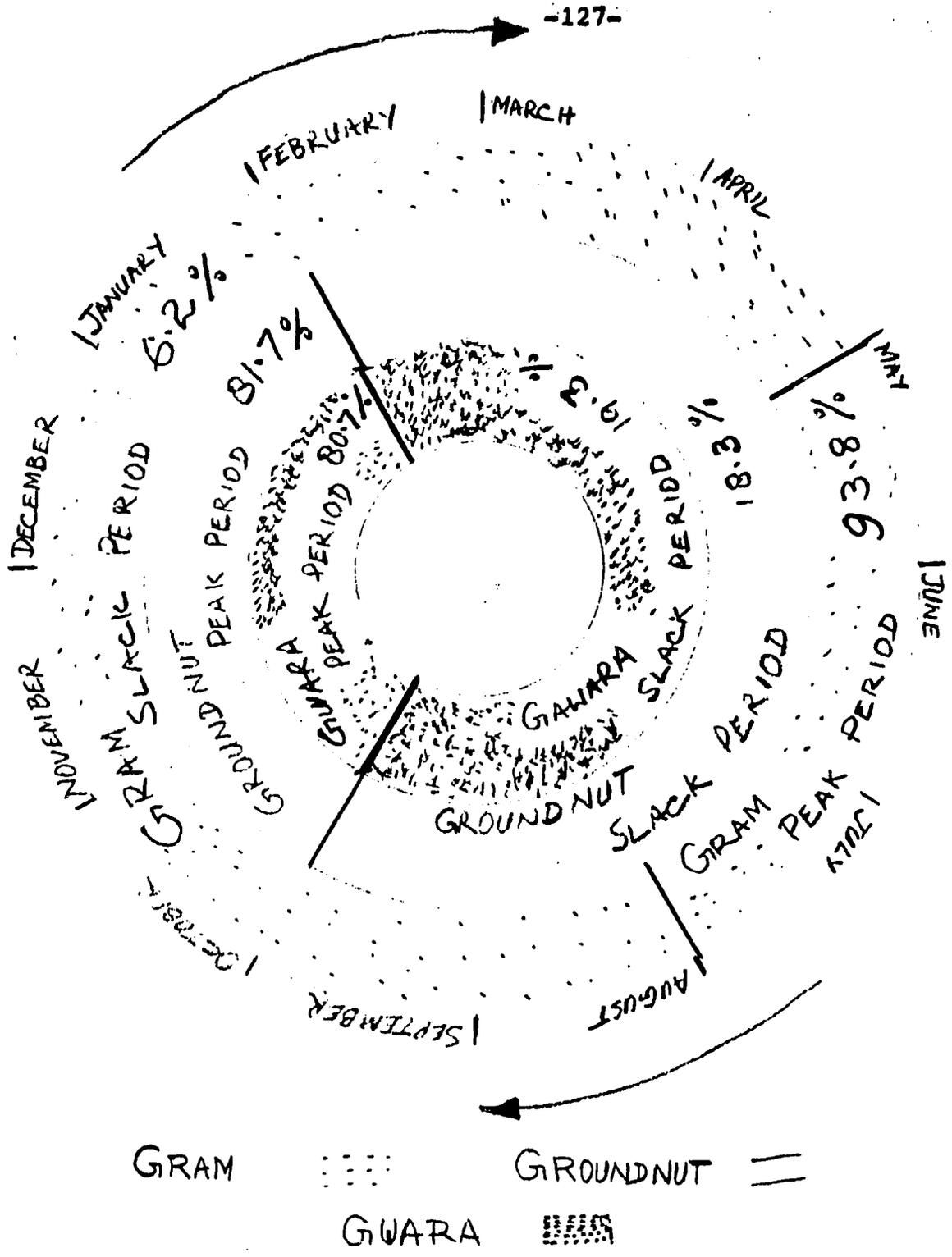


FIG 6-3(b) DEALER MARKETING CALENDAR (SALES)

TEHSIL:

CHAKWAL	—	PUNJAB
1977	—	1978

### Marketing Channels of Major Commodities

The marketing channels are discussed here for two major commodities in whose case sizeable marketable surplus was being generated and that were also an important source of cash income for the farmers/dealers of the area, (see figure 5.2 and 5.3). Two year-round marketing wheels have been constructed, one for dealer purchases and the other for sales of major crops. The peak season for each crop, when most of the sale-purchase activity takes place, and similarly the slack season has been identified in these diagrams.

Groundnut:- The main functionaries through whom the groundnut surpluses moved from the farmers' field to the ultimate consumers were the village dealer, 'kacha + pacca arhtia', wholesalers from the regional markets, oil processors, and the retailers. In addition to these, groundnut was also directly received by the retailers from farmers or the village 'beoparies'. The implications of involvement of such a long chain of intermediaries was that it raised the consumer prices and depressed the farmer prices. However, the aggregate amount of marketing margin at each level was also a strong determinant of prices desired by the farmer and/or paid by the consumer.

Gram:- The marketing channels for gram were also similar to those for groundnut. The proportionate volume handled and the

prices prevailing at each level are indicated in illustration 5.3.

Business Costs:- Staff wages, telephone charges, shop/godown rent, entertainment, and taxes were reported to be the main items of expenditure incurred by dealers in the business of buying farm produce. On an average, Rs.512/- per month were incurred by all dealers to run their farm business activities. The amount spent by large dealers was almost double the amount incurred by small dealers (table 6.6)

Table 6.6: Monthly Expenditure on Business

--- Cost Components								
Dealer Size	Staff Wages	Tele- phone	Taxes	Shop Rent	Godown Rent	Entertain- ment	Others*	Total
Small	18.9 (5.0)	50.3 (13.4)	3.8 (1.0)	62.5 (16.6)	62.5 (16.6)	174.4 (46.4)	3.8 (1.0)	376.2 (100)
Large	135.9 (21.0)	75.6 (11.7)	12.4 (1.9)	94.2 (14.5)	94.2 (14.5)	205.3 (31.7)	30.6 (4.7)	648.3 (100)
Avg.	77.3 (15.1)	63.0 (12.3)	8.1 (1.6)	78.4 (15.3)	78.4 (15.3)	189.8 (37.1)	17.2 (3.3)	512.1 (100)

\* Personal travel expenses to recover outstanding amounts elsewhere, or to have business contacts in regional markets. Figures under each column give average amount of cost for the item while the figures in parentheses give the proportion of cost of each item in the total.

Among the various cost components described above, entertainment constituted the largest portion of total business cost, followed by shop/godown rent (17 per cent) and staff wages (15 per cent). Staff wages, however, was an important cost item for large dealers who were incurring about 21 per cent of their total cost on this item as they employed 'Munshi' to handle their business. Similarly, entertainment appeared to be the major cost item on small dealers' account, making up 46 per cent of total costs. The probable reason for this could be the small dealers effort to catch more business through non-pricing competition. Tax expenditure was, however, under reported by both dealer categories.

The business costs were found highly correlated with dealership size, larger dealers incurring more business costs. The co-efficient of correlation, 'r' value obtained was 0.52, which was significant at 5 per cent confidence level as shown by 't' statistic having a value of 3.41.

#### Marketing Charges Passed on to Farmers:-

Dealers were reported to pass on certain charges to farmers while handling their farm produce in order to meet their business cost and raise capital for future investment. An effort was made to estimate the magnitude of various business charges that were reportedly being passed on to farmers.

Table 6.7 shows that the farmers were bearing an average cost of Rs. 8 per maund on the commodities sold in the market which were being passed on to them by the dealers. Major charges included loss in weight/driage, (over weightment by 1 to 2 seers/maund), and commission which accounted for 53 and 40 per cent of total charges. Handling charges formed about 6 per cent of total charges. An interesting finding of the survey was that dealers also reported charging of market fee from farmers for making payment to the market committee. This item worked out to about 1.2 per cent of total charges. There was not much variation in the average amount of expenses passed on by small and large dealer to their customers, although individual items showed considerable variation (table 6.7). Thus net sale receipts received by the farmers were Rs. 92 per maund

Table 6.7: Marketing Charges Passed on to Farmers  
(Average amount in Rs. per maund)

Market	Sale Commission	Loss in Weight/moisture/Quality discount etc.,	Labour Charges	Market Fee	Mosque Fund	Total
Chakwal	3.0 (40.3)	3.8 (51.0)	0.5 (6.7)	0.1 (1.4)	0.1 (0.7)	7.5 (100)
Dhudial	3.0 (39.0)	4.3 (55.3)	0.4 (4.5)	0.1 (1.2)	- -	7.7 (100)
Weighted Average	3.0 (39.8)	4.0 (53.1)	0.42 (5.6)	0.09 (1.2)	0.03 (0.4)	7.5 (100)

Average price per maund of groundnut has been considered as Rs. 100 to work out commission charges/maund. Figures in parentheses indicate the percentage of marketing charges passed on to farmers.

(given sale prices of groundnut as Rs. 100 per maund). Farmers expenses on items like transportation, octroi and food were in addition to this. To reduce these costs, some substitute channels or sale agency need to be established. Suggestions included (1) opening purchasing outlets seasonally near villages, and (2) encouraging village dealer activity through a credit programme to enable them to handle a major portion of the marketable surplus at the village level.

Factors Influencing Marketing Decisions:-

In farm product business, the dealers have to make decisions about time of sale and storage of commodities in order to get a better margin on various transactions. The dealers were asked to express their views about these activities. Regarding sale timings, more than 87 per cent of both the categories of dealers, mentioned that high prices were the major factor effecting sale decision at different times. As soon as the dealers observed prices were high enough, they sold the available commodity. In the case of falling prices, either due to slack in demand or enhanced supplies, the usual practice was to store the commodity for certain period. In situations of expected rise in prices, speculative considerations also guided the dealers' decisions of building their stocks for sale at higher prices. Thus about 41 per cent of dealers mentioned prevalent low prices as the main reason for storing the commodities with the expectation of sales at higher

prices in the subsequent periods and thus to increase their margin on commodity transactions.

Storing/Selling Decisions:- In table 6.8, various dealer decisions affecting when and where to buy or sell are summarised. Large dealers can apparently adjust operations more easily than small dealers.

Table 6.8: Factors Influencing Decisions Regarding Marketing of Farm Produce

Selling			Storing			
High Price	Anticipated Decrease in Price	Total	Low Price	Anticipated Increase in Price	No Res- ponse	Total
14 (87.5)	2 (12.5)	16 (100)	5 (31.3)	4 (25.0)	7 (43.7)	16 (100)
14 (87.5)	2 (12.5)	16 (100)	8 (50.0)	6 (37.5)	2 (12.5)	16 (100)
28 (87.5)	4 (12.5)	32 (100)	13 (40.6)	10 (31.3)	9 (28.1)	32 (100)

Figures in parentheses indicate the percentage of respondents.

Buying				Shipment		
Anticipated Decrease in Price	Low Price	High Demand	No Response	Total	Local Markets	Other Markets
4 (25.0)	7 (43.75)	-	5 (31.2)	16 (100)	16 (100)	8 (50.0)
6 (37.5)	8 (50.0)	1 (6.2)	1 (6.2)	16 (100)	16 (100)	10 (62.5)
10 (31.2)	15 (46.9)	1 (3.1)	6 (18.7)	32 (100)	32 (100)	18 (56.2)

Figures in parentheses indicate the percentage of respondents.

Price Formation:-

Price formation is an important activity in farm product business resulting in exchange of commodity ownership. It takes place at two stages (1) between farmers and dealers and (2) between dealers. Accordingly, the dealers mentioned various methods of price formation between buyers and between farmers and dealers. Open auction was the most important practice, followed by individual agreement between buyer and seller (or say between the dealers and the farmers), used for disposal of farm produce in the market.

Some dealers also reported use of a chit as another important practice of price formation between the dealers and the farmers - a practice which is called sealed bid auction. In this practice, the buyers or their representatives write their bids (i.e. price per maund) on a piece of a paper and fold it. All such bids are collected from the participating buyers and then opened in the presence of various sellers. The transactions are concluded in the name of buyer offering highest prices. This practice was assumed to increase marketing efficiency by helping disposal of a large number of lots of a commodity, and avoid buyer price competition. This practice is, however, generally to the disadvantage of farmers as compared to open auction. Table 6.9 shows the methods used for price formation in the sample markets.

Table 6.9: , Methods of Price Formation\*

(a) Between Farmer & Dealer

Size of Dealer ;	Open Auction	Use of Chit	Agreement Between Farmer & Dealer
Small	16 (100)	1 (6.3)	7 (43.8)
Large	16 (100)	4 (25.0)	5 (31.3)
TOTAL	32 (100)	5 (15.6)	12 (37.5)

Figures in parentheses indicate percentage of respondents mentioning a particular method.

\* Multiple response.

(b) Between Dealers\*

Size of Dealer	Open Auction	Agreement Between Buyer and Seller
Small	14 (87.5)	10 (62.5)
Large	13 (81.3)	10 (62.5)
TOTAL	27 (84.4)	20 (62.5)

Figures in parentheses indicate the percentage of respondents.

\* Multiple response.

Net price was arrived at after deducting various charges discussed earlier.

Price Information:-

Market/price information is of basic importance in price discovery and formation in commodity trade. This also increases pricing efficiency in the market.

Accordingly, the dealers were found actively engaged in acquiring recent information on prices, supply and demand, and prospective arrivals/buying. Such information was collected by dealers both for local and regional markets. The sample dealers reported a number of ways of collecting price information. Use of a telephone for obtaining information on commodity prices and buying activities from regional markets was an equally important source of price information for the majority (51 per cent) of large and small dealers. "Daily Business" and other newspapers were other important sources of information for regional markets.

Table 6.10: Sources of Price Information and Adequacy\*

(a) Sources

Size of Dealer	Tele- phone	Observing buyer Acti- vity	Open Auction Business	Daily & Business	Telegram from Other Markets	Total
Small	15 (55.5)	4 (14.8)	2 (7.5)	6 (22.2)	-	27 (100)
Large	14 (46.7)	8 (26.7)	3 (10.0)	3 (10.0)	2 (6.6)	30 (100)
TOTAL	29 (50.8)	12 (21.0)	5 (8.8)	9 (15.8)	2 (3.5)	57 (100)

\* Multiple response

(b) Adequacy

Size of Dealers	Yes	No	Total
Small	4 (25.0)	12 (75.0)	16 (100)
Large	9 (56.2)	7 (43.8)	16 (100)
TOTAL	13 (40.6)	19 (59.4)	32 (100)

Figures in parentheses indicate percentage of respondents.

Regarding price information assembly within the markets, observing/participation in open auction, supply and buyer activity (demand) were the major sources/methods of gathering price information.

The dealers were asked to express their views regarding the existing price information communication system. Majority of the dealers showed dissatisfaction about the system of price information communication and desired improvements, like improvement in telephone communication efficiency.

#### Farm Products Grading:-

Grading is an important operation in marketing farm products that improves pricing efficiency and brings better prices to producers. However, the dealers reported that grading was neither popular among farmers nor among dealers as a majority of farmers (81 per cent) and 62 per cent of dealers did not grade farm products (table 6-11). The only commodity graded was groundnut. Those grading products were also not grading strictly according to the usually accepted grading standards. The major factors considered in grading of groundnut were moisture content of the produce, its colour, thickness of the pod, etc. Since we know that a grading program can benefit farmers willing to produce high quality crops, it is obvious that a strong educational program is needed in grading. Both farmers and dealers must be shown how they can benefit by adopting product grading.

Table 6.11: Grading of Farm Produce

Dealer Size	Farmer Grading			Dealer Grading			Factors Considered for Grading				
	Y e s	N o	Total	Y e s	N o	Total	Mois- ture	Colour	Thickness	Size	Total*
Small	2 (12.5)	14 (87.5)	16 (100)	5 (31.3)	11 (68.7)	16 (100)	1 (8.4)	4 (33.3)	3 (25.0)	4 (33.3)	12 (100)
Large	4 (25.0)	12 (75.0)	16 (100)	7 (43.7)	9 (56.3)	16 (100)	2 (15.4)	6 (46.1)	3 (23.1)	2 (15.4)	13 (100)
TOTAL	6 (18.7)	26 (81.3)	32 (100)	12 (37.5)	20 (62.5)	32 (100)	3 (12.9)	10 (40.0)	6 (24.0)	6 (24.0)	25 (100)

Figures in parentheses indicate percentage of respondents.

\* Multiple response.

Storage Capacity:-

Adequate storage facility is a pre-requisite in farm product business in order to store farm produce to overcome low or erratic price periods and as a speculative activity to securing larger margin on sale transactions. The dealers are, therefore, supposed to have proper storage facility according to the nature and volume of their business. The survey indicates that all dealers had storage facilities, owned or rented-in, mainly attached to their shops. The average storage capacity available with small dealers was about 581 maunds and that of large 672 maunds. Large dealers had proportionally large storage capacity (table 6.12).

Table 6.12: Storage Capacity

(a) Storage Capacity Available to Dealers

Size of Dealer	Sample	Total Storage Capacity	Average Storage Capacity	Capacity as percentage to Total
Small	16	9300	581.3	46.4
Large	16	10750	671.9	53.6
TOTAL	32	20050	626.6	100.0

(b) Suggestions for Improvement of Storage Arrangements\*

Dealer Size	Suggestions			Total
	Construction of Medium Size Storage in the Market	Storage Pest Control	No. of Suggestions	
Small	13 (72.2)	1 (5.6)	4 (22.2)	18 (100)
Large	14 (73.8)	2 (10.5)	3 (15.8)	19 (100)
TOTAL	27 (73.0)	3 (8.1)	7 (18.9)	37 (100)

Figures in parentheses indicate the percentage of respondents.

\* Multiple response.

Storage Losses:- It was observed that dealers were not very conscious about the benefits of better storage arrangements/practices and the magnitudes of losses accruing on account of improper storage. Therefore, the dealers rarely concerned themselves about proper storage and check the losses. Thus the data supplied by dealers on storage losses was not reliable as they never measured storage losses. Hence no details on this account are available. It is obvious that an educational program on causes of storage losses, and methods of reducing such losses is needed.

Storage Improvement Program:- In response to the question of expressing their views on storage improvement, storage improvement suggestion offered by 73 per cent dealers

was construction of medium type storage at market level by the Market Committee or the government while the other important suggestion was control of storage pests in the existing storage.

Credit Utilization:-

Two major aspects of dealer credit practice were studied. (i) credit advanced by dealers to their farmer clients, and (ii) credit utilization by dealers themselves. The discussion that follows focuses on these two aspects.

Dealer Credit for Farmers:- Table 6.13 shows that 84 per cent of the dealers extended credit to farmers, the proportion of small and large dealers being comparable to a large extent. The major purpose for which credit was extended was domestic use. The dealers extending a loan gave it for more than one purpose. No dealer mentioned any charges or conditions for loan repayment. The loan cost was imputed. The farmers getting a loan were supposed to bring their produce to the dealer providing the loan. The loan cost was made good through the margin secured on purchase/sale of farmer products brought by farmers and marketing charges passed on to them.

Table 6.13: Dealer Credit to Farmers

Size of Dealer	Y e s	N o	Purpose of Credit	
			Farm Inputs	Domestic Needs
Small	13 (81.3)	3 (18.7)	10 (43.5)	13 (56.5)
Large	14 (87.5)	2 (12.5)	11 (47.8)	12 (52.2)
TOTAL	27 (84.4)	5 (15.6)	21 (45.6)	25 (54.4)

Figures in parentheses indicate responses within same category.  
\* Multiple response.

Dealer Credit Utilization:-

Credit use among dealers was a common practice. Table 6.14 shows that of the total respondents, 15 (47 per cent) obtained credit to finance their business, while others relied on their own sources. Of the credit users, 87 per cent used institutional loans, while 13 per cent used non-institutional credit. The proportion of the large dealers using credit was higher than of small dealers. Similarly, the large dealers had 77 per cent of the total institutional credit and 62.5 per cent of total loans, indicating their comparatively larger share in loans obtained from both sources compared to small dealers. (table 6.14)

The test of correlation between dealership size and credit utilization showed significant correlation at 0.05 confidence level. The value of coefficient of correlation 'r' in this case was 0.407 and 't' value = 2.278.

Institutional loans were obtained against security. Table 6.14 shows that property and stock pledging were the two major collateral arrangements for obtaining bank loans for large and small dealers. However, security against property was used by a majority of the dealers, while about 24 per cent dealers also received loans against their bank

Table 6.14: Dealer Credit Use

Dealer Size	Institutional Credit			Non-Institutional Credit			Total Credit			Collateral			Total
	No. of Resp.	Total Amount (Rs)	Average Amount (Rs)	No. of Resp	Total Amount (Rs)	Average Amount (Rs)	No. of Resp	Total Amount (Rs)	Average Amount (Rs)	Stock Pledging	Properly Pledging	Over-Draft	
Small	6	126000 (80.8) (23.3)	21000 - -	1	30000 (19.2) (37.5)	30000 - -	7	156000 (100) (25.1)	22285.71 - -	2	5	- - -	7 - (100)
Large	7	415000 (89.3) (76.7)	59258 - -	1	50000 (10.7) (62.5)	50000 - -	8	465000 (100) (74.9)	58125 - -	1	5	4	10 (100) -
TOTAL	13	541000 (86.7) (100)	41615 - -	2	80000 (13.3) (100)	4000 - -	15	621000 (100) (100)	41400 - -	3	10	4	17 (100) -

Figures in upper parentheses give the share of each credit source in the total lending, while the figures in lower parentheses show the proportion of amount taken by small and large dealers.

accounts as 'over drafts'. The proportion of small non-users of credit was slightly higher than the large category. Low use of credit by dealers reflects the existence of certain constraints as discussed below:

Credit Improvement Program:-

The various constraints discussed by dealers were high interest rate, the nature of existing terms and conditions of issuing and repayment of the loans such as low credit limits of credit followed by banks, and stock pledging. These constraints were reflected in suggestions put forth by the respondents. Availability of credit at low interest rate or free of interest was the most prominent suggestion to help the dealers use more credit. Raising credit limits, and making the other terms of credit flexible-like open pledging\* of stocks and property were some other suggestions (table 6.15).

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\* Open pledging refers to cases where the stocks and property pledged with the banks is easily accessible to the loanee as and when needed for showing stocks to the interested buyers.

Table 6.15: Suggestions for Improvement in a Credit Programme

Dealer Size	Easy Terms and Conditions	Open Pledging	Stock Pledging on Market Price	Low Interest	Interest/Free Loans	Personal Surety	No Condition to Open Account	Limit Should be Increased	Property Pledging on Full Value	No. of Responses	Total*
Small	1 (3.9)	- -	- -	9 (34.6)	5 (23.0)	1 (3.9)	3 (11.5)	1 (3.9)	1 (3.9)	4 (15.3)	26 (100)
Large	1 (4.0)	2 (8.0)	2 (8.0)	7 (28.0)	4 (16.0)	1 (4.0)	1 (4.0)	1 (8.0)	2 (8.0)	4 (16.0)	25 (100)
TOTAL	2 (3.9)	2 (3.9)	2 (3.9)	16 (31.4)	10 (19.6)	2 (3.9)	4 (7.8)	2 (3.9)	3 (5.9)	8 (15.7)	51 (100)

Figures in parentheses give the percentage of responses.

\* Multiple response.

General Problems of Dealers:-

The dealers problems mainly related to the improvement in the credit system and marketing facilities. About 49 per cent of the dealers mentioned non-availability of credit-high interest rate as a major problem affecting their business activity. Lack of proper amenities in the market premises such as an animal shelter and drinking water facility was another problem. Other problems included non-grading of produce by farmers (14 per cent), and lack of pacca roads (11 per cent) in the rural areas (table 6.16).

Table 6.16: General Problems of Dealers-Punjab

Dealer Size	Required Credit Not Available	High Rate of Interest	Lack of Pacca Roads	Commodities not Graded	No Watchman in the Market	No Shelter Arrangements for Animals	Total*
Small	9 (39.1)	3 (13.0)	3 (13.0)	5 (21.8)	2 (8.7)	1 (4.4)	23 (100)
Large	3 (21.4)	3 (21.4)	1 (7.2)	-	-	7 (50.0)	14 (100)
Total	12 (32.5)	6 (16.2)	4 (10.8)	5 (13.5)	2 (5.4)	8 (21.6)	37 (100)

\* Multiple responses.

Figures in parentheses indicate the percentage of respondents.

\*S. AZHAR\*

N. W. F. P.

C H A P T E R - III

CHARACTERISTICS OF THE 'BARANI' MARKETS

Mansehra market exhibited rather more typically the characteristics of a centralized marketing system. In all of 'Mansehra Tehsil', this was the largest market serving the majority of the farmers settled in the surrounding villages. According to our estimate, 38 per cent of the villages in 'Mansehra Tehsil' were being served by this market. Farm produce assembled at the village level primary markets like Oghi, Battal, Jabori, Nawazabad, Dhudial and Ballakot, was brought to Mansehra for onward shipment to other regional consuming markets. Among the primary markets, Oghi was the largest, as the marketed surplus from about 25 per cent of the villages in Mansehra Tehsil was being brought here for sale. Other markets like Battal, Jabori, etc. were providing marketing services to the farmers in the rest of the villages in this 'Tehsil'. Table 3.1 indicates the distribution of sample and 'tehsil' villages with respect to the pull of the primary and whole sale markets.

Table 3.1: Number and Percentage of Villages Served by the Markets

Market	Sample Villages		Tehsil Villages (0)	
	No	%	No	%
Mansehra* (Wholesale Market)	8	36.4	80	37.7
Oghi (Primary Market)	7	31.8	53	25.0
Battal (Primary Market)	4	18.2	42	19.8
Other** (Primary Markets)	3	13.6	37	17.5
TOTAL:	22	100	212	100.0

\* Villages falling near Balakot are also included in Mansehra.

\*\* Other Primary markets included Nawazabad, Jabori and Dhudial.

(0) Inferred from the sample distribution.

Market Structure:- Due to the lower density of agricultural production, no regulated and organized market existed at Mansehra. Only two commission agents/wholesalers were found engaged in the trade of agri. produce at Mansehra. One of the commission agents controlled 70-80 per cent of the business of farm products, and was running a thriving business in this field. The other large dealer of Mansehra market who was  
1/ The dealer used to assemble commodities through his employed agents or through village 'beoparies' having business terms with him, in addition to the commodities directly marketed with him by the farmers of adjoining areas.

purchasing farm produce on his own account brought by the farmers or petty itinerant dealers was also found to be disposing it of through the largest commission agent referred above. In addition, there were about 40 retail (karyana) shops that were also having frequent interaction with the main dealers.

The structure of Mansehra market, when examined in the context of a theoretical market model of perfect competition showed maximum deviation because of the strong monopsonistic element in the market. However, the final performance of this market did not show a high degree of imperfection as one would assume due to the monopsonistic structural setting. The main dealer was not making exorbitant profits despite his apparent control over the total business in farm products. The prices set by him were found in line with and based on the recent quotations of the regional markets. The price differentials between the village purchase prices announced by him were also commensurate with his shipment costs (transport, handling, and octori, etc) plus nominal profit. His sales in the regional markets were mainly (95 per cent) on a commission basis. Commodities were shipped to the ordering firms on the price quotations they had conveyed and agreed to on the telephone. Only 5 per cent of the commodities were stored by him as a speculative activity to gain advantage of the overtime rise in prices. Another

check on the profit level of this dealer was that the regional dealers used to get information about prices prevailing in Mansehra market through other sources in order to know whether or not the commission agent was making an excessive profit. As the commission agent knew about this activity, he used to keep his margin within a reasonable 2/ limit in order to maintain his hold on the regional market.

The village (primary) markets serving Mansehra market were characterised by small and economically unviable marketing units operating at a low level of efficiency with limited capital investment. These units were handling mainly retail business and partly assembling farm products for the commission agents during the harvest season. None of them was found in a position to handle a large business volume independently and economically..

Table 3.2: Classification of Dealers in  
Mansehra and Other Markets

Market	Sample Size	Commission Agent		Village Shopkeeper	
		no	%	No	%
Mansehra	8	1	12.5	7 (5)	87.5 (62.5)
Battal	5	-	-	5 (3)	100 (60)
Oghi	1	-	-	1 (1)	100 (100)
Other Markets	4	-	-	4 (4)	100 (100)
TOTAL :-	18	1	5.6	17 (13)	94.4 (72.2)

Figures in parentheses ( ) indicate dealer distribution by ancestral profession as farmers.

2/ Despite this, the dealer was clearly earning a profit in two ways through his pricing practices. First, through the difference between the farm purchase price and the market price set by him on the basis of regional market price. Second, through his sales on commission to ordering firms. In this case he further secured his profit in two ways. He used to sell when prices were favourable and assuring highest differential. The commission sales served as a hedge against any market price fluctuations.

The information collected on the ancestral profession of dealers shows that the majority(72.2..) of market and village dealers belonged to the farming community. However, due to the lower farm productivity level, dealers were following various off-farm pursuits like the farm products business to supplement their income from farming. They were not, however, capable of managing a farm product business on a large scale due to the limited capital availability for investment. The information collected on the business volume of dealers having farming as an ancestral profession, revealed that they were attracting more farm product business as compared to the dealers coming from non-farm households. The weighted average volume of the farmer category was 946 maunds and that of the latter was 654 maunds.

Shops and Godown Ownership:- The table below shows that, a majority of dealers (78 per cent) were having business in rented-in shops and godowns. This was in conformity with the nature of their business as the majority of them were having a small seasonal business volume. Only the bigger unit in Mansehra market was owning shops and godowns. (Table 3.3)

Table 3.3: Ownership of Shops/Godowns

Markets	Owned		Rented-in		Total	
	No	%	No	%	No	%
Mansehra	1	14.3	6	85.7	7	100
Battal	--	--	5	100	5	100
Oghi	--	--	1	100	1	100
Other Markets	3	60	2	40	5	100
TOTAL:-	4	22.2	14	77.8	18	100

N. W. F. P.

C H A P T E R - I V

CHARACTERISTICS OF 'BARANI' FARMERS STUDIED

The major topics discussed in this chapter are, location of sample villages with respect to Mansehra and the type of roads linking the hinterland with this market town. Also discussed in this chapter are, distribution of sample farm households by farm size and family structure, and the production and marketable surplus of major crops.

Location of Sample Villages:- The discussion made earlier in the section on methodology shows that the sample villages in NWFP were selected from a distance extending up to 30 miles from Mansehra, due to the low density of agricultural production. The irrigated cropping in the vicinity of Mansehra also necessitated the selection of villages from longer distance. Consequently, the villages around Mansehra were selected beyond a distance of 5 miles from the market town. As may be seen from table 4.1, Mansehra market was receiving farm products from eight (36 per cent) sample villages, more than half of which were located within 5-10 miles and the rest in over 10 miles radius. The village primary markets like Oghi and Battal were attracting from 32 and 18 per cent of the sample vill-

ages, respectively. These villages were, however, located within a radius of five miles from these market places.

Table 4.1: Distribution of Sample Villages\*

Market	Distance radii (in miles) / Type of Link Road									Total
	0 - 5		5 - 10		Over 10		All Villages			
	K	P	P	K+P	P	K+P	K	P	K+P	
Mansehra	-	-	3	2	1	2	-	4	4	8
Oghi	3	4	-	-	-	-	3	4	-	7
Battal	1	3	-	-	-	-	1	3	-	4
Other Markets	2	1	-	-	-	-	2	1	-	3
TOTAL	6	8	3	2	1	2	6	12	4	22

\* The figures in the table indicate number of villages in each category.

Table 4.1 shows that of the total sample villages, more than 50 per cent of the villages were connected by 'pacca' road, while about 29 per cent were located on 'kacha' roads and the rest on 'kacha + pacca' roads. This implies that the quality of roads linkage needed improvement, although it was comparatively better in the NWFP sample area than in the Punjab's study area.

Farm Size Distribution:- The farmer sample studied in Mansehra market area was comprised of 19 (54 per cent) small, and 16 (46 per cent) large farmers. The small farmers cultivated land ranging between 16 and 100 kanals. The cultivated land area of large farmers ranged between 120 and 500 kanals, except for one farmer who had 2000 kanals.

Table 4.2: Farm Characteristics

Farm Size	Sample Size	Average Farm Size (acres)			Cultivated Land as a percent of the Total Farm Land
		Total Land	Cultivated Land	Net Operational Land	
Small	19	17.3	7.9	6.5	45.8
Large	16	121.9	42.6	17.6	35.0

\* Both the farm size categories consisted of 31 owner operators and 4 owner non-operators. No tenant or owner-cum-tenant was included in the sample.

\*\* Net operational land = owner cultivated land + rented-in land - rented-out land.

Table 4.2 shows that the average farm size on a total land area basis was about 17 acres in the case of small farmers and 122 acres for large farmers. The average farm size based on cultivated area was 8 and 43 acres for these

farmer categories respectively. The percentage of uncultivated land was again higher, as it was in the Punjab's 'barani' area, in the case of large farmers compared to small farmers, with lower land use intensity on large farms. A higher percentage of cultivated land with small farmers shows their more intensive use of land resources. This also implies that improvement in land use intensity on large farms can make available more cultivable land to enhance the crop area.

As customary elsewhere in the country, it was also common to rent out land in this area. The information collected about the amount of crop share received from rented-out land showed that the average amount received was 223 maunds in the case of large and 87 maunds for small farmers during 'kharif', and 64 and 40 maunds during 'rabi', respectively.

#### Farm Production Activities:-

Cropping Pattern:- The cropping pattern followed by farmers of this area was also of a diversified nature and subsistence oriented. Due to ecological factors, the cropping was also limited to only a few major crops, like wheat and maize, raised by almost all sample farmers.

Table 4.3 reveals that the cropping intensity\* of

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\* Cropping intensity refers to both seasons ('kharif' and 'rabi') of the year.

large farmers was 70 per cent, which was considerably lower than small farmers who were cultivating their land at an intensity of 93 per cent. This pattern of cropping intensity was similar to that of the Punjab study area. One of the major reason for low cropping intensity was that large farmers were using a large part of their land for raising poultry/livestock, and forests/orchards. The contribution of these sources to total farm households income was also higher than that of the field crops. Additionally, inefficient land operation by large farmers was another reason for low cropping intensity. It is also noticeable that under the peculiar agro-climatic conditions of the study area, the sample farmers were allocating a higher percentage (72) to 'kharif' crops compared to 'rabi' crops, in which case the proportion of area cultivated was only 28 per cent. Similarly, the proportion of area allocated to 'kharif' crops, by small and large farmers was considerably higher than for 'rabi' crops.

Table 4.3: Cropping Pattern on Sample Farms\*

(a) Kharif, 1977

<u>Farm Size</u>	<u>Average Cropped Area (acres)</u>	<u>Cropping Intensity</u>	<u>Maize</u>	<u>Mash</u>	<u>Other Crops**</u>
Small	5.0	93.1	88.9 (100)	8.2 (52.6)	2.9 (41.1)
Large	22.3	70.2	90.5 (100)	2.9 (50)	6.6 (112.5)
TOTAL	13.0	75.1	90.2 (100)	4.0 (51.4)	5.8 (74.3)

\* Area under each crop expressed as percentage of total area.

\*\* Other crops comprised moth, beans, groundnut, rice, etc., grown by different farmers.

\*\*\*Multiple Response.

Figures in parentheses give the percentage of respondents growing the crop in each farm size category.

(b) Rabi, 1977-78

Farm Size	Average Cropped Area (acres)	Wheat	Sarson	Masoor	Bareily
Small	2.7	89.0 (100)	9.2 (36.8)	1.8 (15.8)	-
Large	7.6	80.0 (87.5)	15.8 (31.2)	2.7 (18.7)	1.5 (6.2)
TOTAL	5.0	82.7 (94.3)	13.8 (34.7)	2.4 (17.1)	1.1 (2.8)

For explanation, refer to footnotes under table 4.3 (a).

The cropping pattern of sample farmers presented in the above table shows that maize was the principal 'kharif' crop grown by all the farmers, who planted 90 per cent of the cropped area to this crop. Fifty one per cent of the respondents allocated about 4 per cent of the cropped area to mash. Other 'kharif' crops like moth, lobia, groundnut, rice, were grown by 74 per cent respondents on about 6 per cent of cropped area.

Among 'rabi' crops, wheat occupied the largest proportion claiming about 83 per cent of the cropped acreage. This crop was grown by 94 per cent of the respondents as some of the respondents could not grow wheat due to snowfall during the survey period. Cultivation of sarson and lentil was limited to about one third of the sample farmers.

Production by Farm Size:- The discussion that follows, describes the average production per household of major 'kharif' and 'rabi' crops produced on the sample farm households. As

may be seen from table 4.4 the average quantity of maize and wheat produced by each farm household was 140 and 51 maunds respectively. However, average production on small farms was much less compared to the large farms. The table also shows that the average production of maize and wheat on small farm households was 83 and 39 maunds respectively. Large farmers on the average, were producing 208 and 66 maunds of these crops. The position of other 'kharif' and 'rabi' crops on small and large farms was similar to that described above.

Table 4.4: Average Production of Major Crops  
by Farm Size on Sample Farms

Farm Size	Kharif			Rabi	
	Maize	Mash	Others*	Wheat	Others*
Small	83.4 (100.0)	1.6 (52.6)	6.4 (36.8)	39.0 (100.0)	2.7 (47.4)
Large	207.5 (100.0)	4.0 (50.0)	20.3 (68.8)	66.2 (87.5)	12.6 (50.0)
Wt. Avg.	140.1 (100.0)	2.6 (51.4)	14.9 (51.4)	50.6 (94.3)	7.4 (48.6)

Figures under each crop indicate average quantity in maunds of production by farm size.

Figures in parentheses indicate the percentage of respondents producing the crop.

Other crops consisted mainly of 'kharif' pulses (like moth, methi), soyabean, rice, groundnut, and 'rabi' crops like sarson, masoor and barley.

Plans to Increase Production:- The sample farmers were asked whether or not they planned to increase production. They were also asked to mention the ways in which they planned to do so. The table below shows that about 26 per cent of the respondents did not have any plans to increase production\*. The remaining farmers mentioned two ways of increasing production; through an increase in area under crops, and through an increase in yield per acre by using improved inputs. The majority of small (60 to 62.5 per cent) sample farmers were equally interested in increasing maize and wheat production by increasing 1-10 kanals of area under these crops. More than 12 per cent farmers planned to increase production by using more inputs. This implied that the small farmers were making intensive efforts to get more production from their small farms.

Table 4.5: Plans to Increase Production and Utilization of Incremental Produce

Farm Size	Crops	Increase in Production			Utilization if Incremental Produce		
		Through Increase in Area (kanals)			Through more Fertilizer & Machinery	To Purchase	
		1-10	11-25	26 & Above		Necessities of Life	Farm Inputs
<b>SMALL</b>	Maize	10 (62.5)	3 (18.3)	1 (6.2)	2 (12.5)	13 (68.4)	6 (31.6)
	Wheat	9 (60.0)	3 (20.0)	1 (6.7)	2 (13.3)	-	-
<b>LARGE</b>	Maize	3 (37.5)	3 (38.5)	1 (12.5)	1 (12.5)	4 (40.0)	6 (60.0)
	Wheat	5 (55.6)	2 (22.2)	2 (22.2)			

\* 16 per cent small and 38 per cent large farm size category (on the whole 26 per cent)  
 Figures in parentheses indicate the percentage of respondents.

The above table also shows that about 75 per cent of the large maize growers planned to increase wheat production mainly by increasing area under this crop up to 25 kanals. The reason for this tendency was scope of increasing area because of their large farm size. The table further shows that the major use of incremental produce reported by 68 per cent small farmers was financing domestic needs, while 60 per cent of large farmers mentioned purchase of farm inputs. This implies small farmers' lesser commitment to farming because of other competing family needs.

Prices Needed to Cover the Cost of Production:-

Sample farmers were asked to indicate the level of prices that would be sufficient to cover the cost of production of various crops. More than 80 per cent of the farmers under study mentioned Rs. 50/- to 70/- as the most appropriate price level meeting their cost of producing one maund of maize. A minor percentage of farmers said prices should be above Rs. 100/- per maund. (Logically, the prices quoted seem exaggerated as this much cost is not incurred in the case of maize production under 'barani' farming.)

Similarly, mash prices were preferred by majority (62.5 per cent) of sample farmers at Rs. 100 or above, keeping

in view the increase in production costs. (Table 4.6).

Table 4.6: Prices Considered Sufficient Enough by the Sample Farmers to Just Cover Cost of Production

Crop:	Price range (Rs per maund)							Total*
	40-49.9	50-59.9	60-69.9	70-79.9	80-89.9	90-99.9	100 & Above	
<u>Maize</u>	4 (12.5)	20 (62.5)	6 (18.8)	1 (3.1)	-	-	1 (3.1)	32 (100)
<u>Mash</u>	-	-	-	-	1 (12.5)	2 (25.0)	5 (62.5)	8 (100)
<u>Wheat</u>	8 (32.0)	15 (60.0)	-	2 (8.0)	-	-	-	25 (100)
<u>Other Rabi</u>	-	-	2 (15.4)	1 (7.7)	1 (7.7)	3 (23.1)	6 (46.1)	13 (100)
<u>Other Kharif</u>	-	-	-	1 (10.0)	2 (30.0)	1 (10.0)	5 (50.0)	10 (100)

\* Remaining farmers did not respond. Figures under each column show number of respondents while figures in parentheses indicate their percentages.

The above table shows that the majority (60 per cent) of farmers desired wheat prices between Rs. 50/- to 60/- to cover cost of production. However, this price range also seems to be high in view of the cost of production incurred by 'barani' farmers. The prices seem to be described with reference to prevailing market prices.

Factors Limiting Production:- The sample farmers mentioned several factors limiting their interest in crop production. One of

the major constraints mentioned by 56 per cent of the sample farmers was non-availability of farm inputs/agri-machinery on time and at cheaper/official prices followed by financial constraints to finance crop production activities. Shortage of irrigation water/uncertain rains were some other constraints in this respect.

Table 4.7: Factors Limiting Production and Incentives Needed to Increase Production

Farm Size	Limiting Factors			Incentives needed		
	Non-Availability of Farm Inputs/Machinery	Financial and Other Constraints*	Shortage of Irrigation Water/Uncertain Rains	Supply of Farm Inputs/Machinery at Cheaper Rates	Interest Free Credit/Other Facilities**	Irrigation Water Facility/Tubewell and Construction of Small Dams
Small	47 (58.0)	22 (27.2)	12 (14.8)	34 (58.6)	15 (26.3)	8 (14.0)
Large	37 (53.6)	26 (37.7)	6 (8.7)	33 (60.0)	17 (30.9)	5 (9.1)
TOTAL	88 (56.0)	48 (32.0)	18 (12.0)	67 (59.8)	32 (28.6)	13 (16.6)

Figures in parentheses indicate the percentage of respondents.  
 \* Include: 'Kacha' road, ineffective pesticides, lack of technical knowledge, low prices of farm produce, soil erosion.  
 \*\* Include: Provision of 'pacca' road, credit, and supply of electricity, etc.

Regarding incentives needed to maintain farmer interest in increasing crop production, a majority (60 per cent) of them desired supply of inputs at cheaper rate followed by impro-

ving liquidity through interest free loaning.

Marketable Surplus:- As may be noted from table 4-8, maize was the only major crop generating a sizeable amount of marketable surplus on all sample farms. A marketable surplus of wheat was available from about 29 per cent of the sample farm households, while 31 per cent of the sample families had a marketable surplus of other 'rabi' crops. (table 4.8)

Table 4.8: Marketable Surplus of Major Crops on Sample Farms

Farm Size	Kharif			Rabi	
	Maize*	Mash	Others**	Wheat	Others**
Small	16.3 (100.0)	2.3 (10.5)	4.0 (21.1)	8.5 (26.3)	1.9 (26.3)
Large	74.0 (100.0)	5.5 (18.8)	20.0 (31.3)	37.4 (31.3)	9.9 (37.5)
Wt. Ave.*	42.5 (100.0)	4.2 (14.3)	15.4 (20.0)	23.0 (28.6)	6.3 (31.4)

Figures under each crop indicate average quantity in maunds of marketable surplus by farm size.

Figures in parentheses indicate the percentage of respondents selling the crops in each farm size category.

\* The proportion of wheat and maize was calculated on the basis of total marketable surplus available during each season on the two farm size categories.

\*\* Other crops consisted mainly of 'kharif' pulses (like Moth, methi) soyabean, rice, and 'rabi' crops like sarson and lentil.

The above table shows that the average amount of marketable surplus varied according to farm size and to the crops grown. In the case of maize, the average amount marketed was 16.0 maunds by small farmers and 74.0 maunds by large ones. In the case of wheat, the average amount of marketable surplus on 26 per cent small farms was 8.5, and 37.4 maunds with 31 per cent large ones. A peculiar phenomenon was observed that 11 per cent of the sample farmers sold wheat at a higher rate to meet their financial needs, but purchased wheat flour at a subsidized rate from ration shops during the off-season. On the whole, all maize growers sold about 43 maunds of maize, while on an average, 23 maunds of wheat was marketed by about 29 per cent of the respondents.

Correlation coefficient 'r' was computed to examine the relationship between farm size and marketable surplus followed by t-test to see the significance of results. The values obtained were 0.251 and 1.488 respectively. This showed weak relationship between the two variables. The explanation for low value was that the amount of marketable surplus was influenced by other variables like family size, as large families mainly belonged to large farm size categories.

Family Size and Consumption Needs:-

Family Structure\*:- The distribution of the farm family

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\* Due to unusually large family size, the farm families have been divided into more size categories than the ones used in the Punjab.

sizes presented in table 4.9 shows that on the average each farm family consisted of about 16 members. However, the largest percentage of sample families comprised about 13 family members. The reasons for unusually large family size were high fertility rate among farm families and a larger number of non-family members like Dehkans, servants and relatives residing with each family. The implication of the large family size was that a major portion of the foodgrains produced by the farm household was retained for home consumption.

Table 4.9: Family Structure of Sample Farm Households

Family Size	Family Composition				
	Distribution*	Child- ren**	Adults	Non-Family Member***	Average Fam- ily Size
1 - 5	2 (5.7)	3	4	1	4
6 - 10	5 (14.3)	19	19	6	8.8
11-15	12 (34.3)	45	84	25	12.8
16-20	7 (20.0)	40	58	27	17.9
21-25	6 (17.1)	28	68	36	22
26 & Above	3 (8.6)	30	44	29	34.3
TOTAL:	35 (100.0)	165	277	124	16.2

\* Number of respondent families in each size category.

\*\* Upto 12 years of age irrespective of sex category.

\*\*\*Non-family members include 'Dehkan' families, which raised the average family size.

Figures in parentheses indicate the percentage of respondents.

Production and Consumption by Family Size:- The pattern of food consumption in the area under study was also similar to that of other parts of the country. However, due to agroclimatic/ecological factors influencing the production pattern, maize grain was the chief component of the farm family diet. Accordingly, the sample households of various family size categories were producing an adequate amount of maize, the average quantity being about 140,0 maunds. Although wheat was also an indispensable component of the farm families diet, its production was not sufficient to meet domestic requirements as farm households purchased, on average, 25 maunds of wheat during the year. It is, however, worth noting that none of the sample farm households purchased 'kharif' or 'rabi' pulses, as the home produced quantity was sufficient for domestic requirements. (Table 4.10)

Table on next page.

Table 4.10: Average Production, Consumption and Purchases Classified by Family Size

(a) Kharif

Family Size	(in maunds/family)						
	Maize		Mash		Others*		
	Production	Consumption	Production	Consumption	Production	Consumption	Purchases
1 - 5	45 (5.7)	13.5	4.3 (2.9)	0.6	20.0 (2.9)	16.0	-
6 - 10	236.8 (14.3)	37.9	1 (5.7)	0.7	25.5 (8.6)	3.8	-
11- 15	106 (34.3)	56.2	1.0 (17.1)	0.64	7.6 (20.0)	6.7	4 (5.7)
16- 20	99.9 (20.0)	42.5	4.2 (14.2)	1.1	2.0 (14.2)	1.3	-
21- 25	191.2 (8.6)	78.5	1 (5.7)	1	13.6 (20.0)	6.5	12 (2.9)
26 and Above	170.7 (8.6)	86.9	6 (5.7)	1	4.0 (8.6)	-	-
TOTAL:	140.1 (100.0)	54.9	2.6 (51.4)	0.8	10.3 (74.3)	4.9	6.6 (8.6)

Figures in parentheses indicate the percentage of respondents

\* Mainly Pulses.

The table also shows that the average amount of consumption of maize and wheat was positively related to family size; larger amounts being consumed by large families. However, the average amount of production of these crops did not show a clear relationship with the family size.

(b) Rabi

Family Size	(in maunds/family)				
	Wheat			Others*	
	Produc- tion	Consum- ption	Purchas- es	Product- ion	Consum- ption
1 - 5	27 (5.7)	9.6	6.8 (2.9)	3.8 (2.9)	0.3
6 - 10	65.2 (14.3)	27.9	14.6 (11.4)	-	-
11 - 15	45.9 (34.3)	32.1	17.3 (28.6)	1.5 (5.7)	0.9
16 - 20	54.4 (20.0)	17.9	28.3 (17.1)	1.3 (2.9)	1.0
21 - 25	29.8 (11.4)	20.6	35.1 (17.1)	0.2 (5.7)	0.2
26 and Above	79.0 (8.6)	32.2	37 (5.7)	15.0 (2.7)	2.0
TOTAL:	50.6 (94.3)	25.7	24.5 (82.7)	3.3 (20.0)	0.8

Figures in parentheses indicate the percentage of respondents.

\* Mainly 'Rabi pulses (lentil) and sarson (for extracting oil).

Marketable Surplus by Family Size:- The size of farm household and its financial needs are assumed to influence the availability and quantum of marketable surplus particularly that of foodgrains and pulses. The amount of marketable surplus of various crops esti-

mated on the basis of family size is presented in table 4.11.

Table 4.11: Marketable Surplus by Family Size on Sample Farms (1977-78)

Family Size	(in maunds)				
	Kharif			Rabi	
	Maize	Mash	Others*	Wheat	Others**
1 - 5	16.5 (5.7)	2.5 (2.9)	3 (2.9)	20.0 (2.9)	2.3 (2.9)
6 - 10	99.2 (14.3)	-	62 (2.9)	25.0 (5.7)	13.4 (5.7)
11 - 15	26.5 (34.3)	-	5 (2.9)	2.0 (2.9)	1.2 (8.6)
16 - 20	27.3 (20.0)	3.5 (8.6)	0.9 (2.9)	19.5 (14.3)	8.1 (8.6)
21 - 25	57.7 (17.1)	-	12.5 (5.7)	-	4 (2.9)
26 and Above	35.0 (8.6)	8 (2.9)	12 (2.9)	60.0 (2.9)	12.0 (2.9)
Wt. AVERAGE.	42.5 (100.0)	4.2 (14.3)	15.4 (20.2)	23.0 (28.6)	6.3 (31.6)

Figures under each crop show average quantity marketed by the sellers.

Figures in parentheses indicate the percentage of families selling in each category.

\* Rice, groundnut, soyabean, moth, methi, etc.

\*\* Sarson and lentil.

Table 4.11 shows that a marketable surplus of maize and wheat did not show any relationship with family size. The average amount available with different family size groups varied between 16 to 99 maunds in the case of maize and 2 to 60 maunds in the case of wheat.

Payment-in-Kind: 'Dehkans' and village artisans were the two major types of the agricultural labour employed by the farm families. The survey findings show that fifteen families had engaged 'Dehkans', while all families hired artisans. The services of village artisans were utilized throughout the year to prepare/repair farm implements. The village functionaries were paid an annual 'seip' in-kind mainly from maize and wheat produce by both categories of farm size.

'Dehkans' were also engaged in farming operations throughout the year. All the farm resources, i.e., land, implements, and bullock power were provided by the land owner. The 'Dehkans' simply provided manual labour for carrying out farming activities. The usual share paid to them was 1/4th of the total produce in each season.

Table 4.12: Payments-in-Kinds by Farm Size on Sample Farms (1977-78)

Farm Size	Maize					Wheat					Others**				
	Arti- sans	Imam Masjid/ Khadim	Others	Usher	Dehkans	Arti- sans	Imam Masjid/ Khadim	Others	Usher	Deh- kans	Arti- sans	Imam Masjid/ Khadim	Others	Usher	Dehkans
Small	7.7 (100.0)	1.6 (100.0)	0.9 (63.2)	8.9 (36.8)	21.1 (31.6)	3.4 (100.0)	1.0 (100.0)	0.6 (63.2)	4.3 (36.8)	9.8 (31.6)	0.5 (31.6)	0.6 (5.3)	-	0.3 (26.3)	1.2 (26.3)
Large	20.1 (100.0)	7.3 (100.0)	0.9 (75.0)	19.7 (56.3)	40.8 (50.0)	8.9 (81.3)	2.1 (25.0)	0.5 (75.0)	9.2 (43.8)	14.4 (31.3)	2.1 (25.0)	0.2 (6.3)	0.2 (6.2)	1.8 (25.0)	2.5 (37.5)
Wt. Av- erage	13.4 (100.0)	4.2 (100.0)	0.9 (68.6)	14.9 (45.7)	32.4 (40.0)	5.7 (91.4)	1.5 (88.6)	0.6 (68.6)	6.8 (40.0)	11.9 (31.4)	1.1 (28.6)	0.4 (5.7)	0.2 (2.9)	0.9 (25.7)	1.9 (31.4)

i) Figures under each category show average quantity paid in maunds.

ii) Figures in parantheses indicate the percentage of respondents making payment.

\* Cobbler, Potter, Chokidar, Mirasi, Donkey man, and household servant engaged by a small number of respondents.

\*\* Rice, Kharif pulses, masoor and sarson etc.

Table 4.12 shows that 'Dehkans' got about 32 maunds of payments from maize and 12 maunds of wheat produce, while the artisans (carpenter, blacksmith and barber) on the average, got about 13 and 6 maunds of produce from the two crops respectively. The amount of maize and wheat paid to artisans by small farmers was about one third of the quantity paid by large farmers, while it was about one half of the amount paid to 'Dehkans'. The amounts paid indicate the level of services obtained by small farmers compared to large farmers.

An important feature observed in the Mansehra area regarding in-kind payments was the payment of 'Usher' from farm produce. This payment constituted a large part of total in-kind payments as the sample farmers, on the average, paid about 15 maunds of maize, 7 maunds of wheat, and one maund of other commodities as 'Usher'. The amounts paid by small farmers were again about one half of the amount paid by large farmers, indicating small farmers' relatively weak financial position. The payment of 'Usher' by sample farmers from farm produce also shows their strong affiliation to religion.

Farm Household Income:- Chief sources of income of sample 'barani' farm families comprised of field crops, and livestock/livestock products. Field crops contributed 54 per cent of income for small farmers, and 37 per cent to large farmers. The prominent position occupied by livestock/livestock products among sources of income for small farm families could mainly be attributed to non-profitable small 'barani' farming, and the availability of ample grazing space(pastures) on hills. For large farms, however, poultry (28 per cent) followed by orchards, forest, and green grass/fodder sales were other important sources of income. This pattern of income for large farmers was probably attributable to their large farm size, on which forests and orchards could be raised, and poultry farming could<sup>be</sup> managed as a specialized enterprises (Table 4.13).

Table on next page.

Table 4.13: Gross Income on Sample Farms  
by Farm Size

Farm Size	Farm Income Sources				Non-Farm Income Sources			All Sources	
	Field Crops	Live-stock/ products	Poul-try	Others*	Off-Farm Income (Self)	Remmittances From Family Member	Other Sources (Pension etc)	Farm Sources	Non-Farm Sources
Small	934 (53.9)	787 (45.4)	11 (0.6)	- -	351 (10.2)	353 (10.3)	2737 (39.5)	1732 (33.5)	3441 (66.5)
Large	4687 (37.1)	2028 (16.1)	3500 (27.7)	2404 (19.0)	- -	20212 (95.7)	902 (4.3)	12619 (37.4)	21114 (62.6)
All Farm Wt. Ave- rage.	2650 (39.5)	1354 (20.0)	1606 (23.9)	1099 (16.4)	191 (1.7)	9431 (81.9)	1898 (16.5)	6709 (36.8)	11520 (63.2)

Figures under each income source indicate average amount in rupees per sample farm household.

Figures in parentheses indicate percentage share of each income source in the total.

\* Forest, Orchard, Grass and Green fodder of wheat.

Like the 'barani' areas of Punjab province, the sample farmers were also following off-farm pursuits to supplement their farm income. Among these non-farm sources, other sources of income (such as pension, 'karyana' business, suzuki van, etc) contributed (upto 80 per cent) towards small farm households income, while remittances from family members emerged as the chief source (96 per cent) of income for large farmers. It is, however, worth noting that no large farmer was personally engaged in off-farm work, while earnings from off-farm work and remittances were equally important sources of income for small

farmers. The monthly income from off-farm work per self-employed small farmer was Rs. 29/-, while remittances from family members were reported as Rs. 29/- in the case of small and Rs. 1684/- in the case of large farmers.

The overall analysis of income sources shows that non-farm sources contributed the largest share (about 63 per cent for large and 67 per cent for small) of income, while the rest of the income came from farm sources. The emergence of such a pattern of income sources was mainly due to uncertain and non-profitable farming under rainfed conditions. This also exhibited a similarity between 'barani' farming in the Punjab and NWFP.

The test of correlation performed to see the relationship between farm size and gross farm sources income indicated weak relationship between these variables. ( $r$  value = 0.209 and  $t = 1.224$ ). The obvious reasons for this phenomenon were that non-farm sources dominated the farm income sources. The contribution of farm sources for small and large farmers was also comparable.

N. W. F. P.

C H A P T E R - V

MARKETING ACTIVITIES OF FARMERS

Farmer Crop Marketing Calendar:- Crop production activity in the 'barani' part of N.W.F.P. was comparable to that of the rainfed Punjab. Maize and pulses were the two main crops that necessitated an interaction of the producers with the market functionaries. Wheat production was hardly sufficient to meet the family consumption needs, and farmers' participation in the market place for its sale was quite limited. Whatever marketable surpluses of these commodities farmers had, they spread their sale over three distinct marketing periods, namely, harvest, post-harvest and the off-season. As may be seen from table 5.1, one-fourth of the marketable surplus of maize was sold at harvest time, while disposal of the remaining quantity was almost equally distributed over the immediate post-harvest and the off-season months. The farmers deferred sale of a

part of the maize to later months, mainly to avoid the risk of a foodgrain shortage. They released their maize stocks in the off-season after ascertaining the prospects of the next wheat crop. This practice also helped the farmers benefit from a temporal price rise because a margin of Rs. 5.8 per maund was observed between harvest and off-season maize prices. However, 79 per cent of mash produce was marketed during harvest time and post-harvest months, in order to meet immediate cash needs. A similar marketing pattern emerged in the case of other 'kharif' crops like beans, rice and groundnut. (table 5.1, a)

The test of correlation between harvest and post harvest prices of maize showed negative relationship with 'r' value of (0.371) and 't' value of (2.273). This relationship was due to peculiar marketing pattern in these areas as discussed above. The amount of saleable stocks released during post harvest/off season months influenced the prices during this period.

Table 5.1 (a): Crop Marketing Calendar - 'Kharif' Crops

Sale Period	Maize			Mash			Other Kharif Crops		
	Respon- dents* Sell- ing	Total Quan- tity (Mds)	Price Range Rs/Md	Respon- dents Sell- ing	Total Quan- tity (Mds)	Price Range Rs/Md	Respon- dents Sell- ing	Total Quantity (Mds)	Price Range Rs/Md
At harvest Time **	15 (26.2)	390 (26.2)	32-50	3 (40.5)	8.5 (40.5)	80-100	3 (79.7)	86 (79.7)	50-80
At Post-Har- vest Time	15 (37.6)	560 (37.6)	35-53	1 (38.1)	8 (38.1)	70.0	2 (16.7)	18 (16.7)	80-110
Off-Season	16 (36.2)	539 (36.2)	40-55	2 (21.4)	4.5 (21.4)	110-120	2 (3.6)	3.8 (3.6)	70-80
TOTAL:	46 (100.0)	1489 (100.0)	32-55	6 (100.0)	21 (100.0)	70-120	7 (100.0)	107.8 (100.0)	50-110

Figures in the parentheses indicate sales as a percentage of the total marketable surplus.

\* Multiple response, farmers sold in different months.

\*\* Harvest months for maize include November, December; post-harvest months, January to March; and off-season April to October.

In the case of wheat and other 'rabi' crops, a little more than 90 per cent of the marketable surplus of wheat and other 'rabi' crops was disposed of during post-harvest months. Sales in the harvest season were very small. Wheat growers did not want to run into a situation of foodgrain shortage, and thus deferred the sale of their surplus produce till the prospects for the next maize crop were properly known. This viewpoint is also supported by the wheat price structure.

Table 5.1 (b): Crop Marketing Calendar  
Rabi Crops

(in maunds)

Sale Period	Wheat			Other Rabi Crops		
	Respon- dents* Selling	Quanti- ty	Price Range Rs/Md	Respon- dents Selling	Quanti- ty	Price Range Rs/Md
At Harvest Time**	2	18 (7.8)	40-50	1	2.3 (3.3)	60.0
At Post-Har- vest Months	10	211.6 (92.2)	35-50	9	64.8 (94.2)	60-110
Off-Season	-	-	-	1	1.8 (2.5)	80.0
<b>TOTAL:</b>	<b>12</b>	<b>229.6</b> <b>(100.0)</b>	<b>35-50</b>	<b>11</b>	<b>68.8</b> <b>(100.0)</b>	<b>60-110</b>

Figures in the parentheses indicate sales as a percentage of the total marketable surplus.

\* Multiple response, farmers sold in difference months.

\*\* Harvest months for wheat, May and June; post-harvest months July to September; off-season months October to April.

# MARKETING CALENDAR (FARMERS)

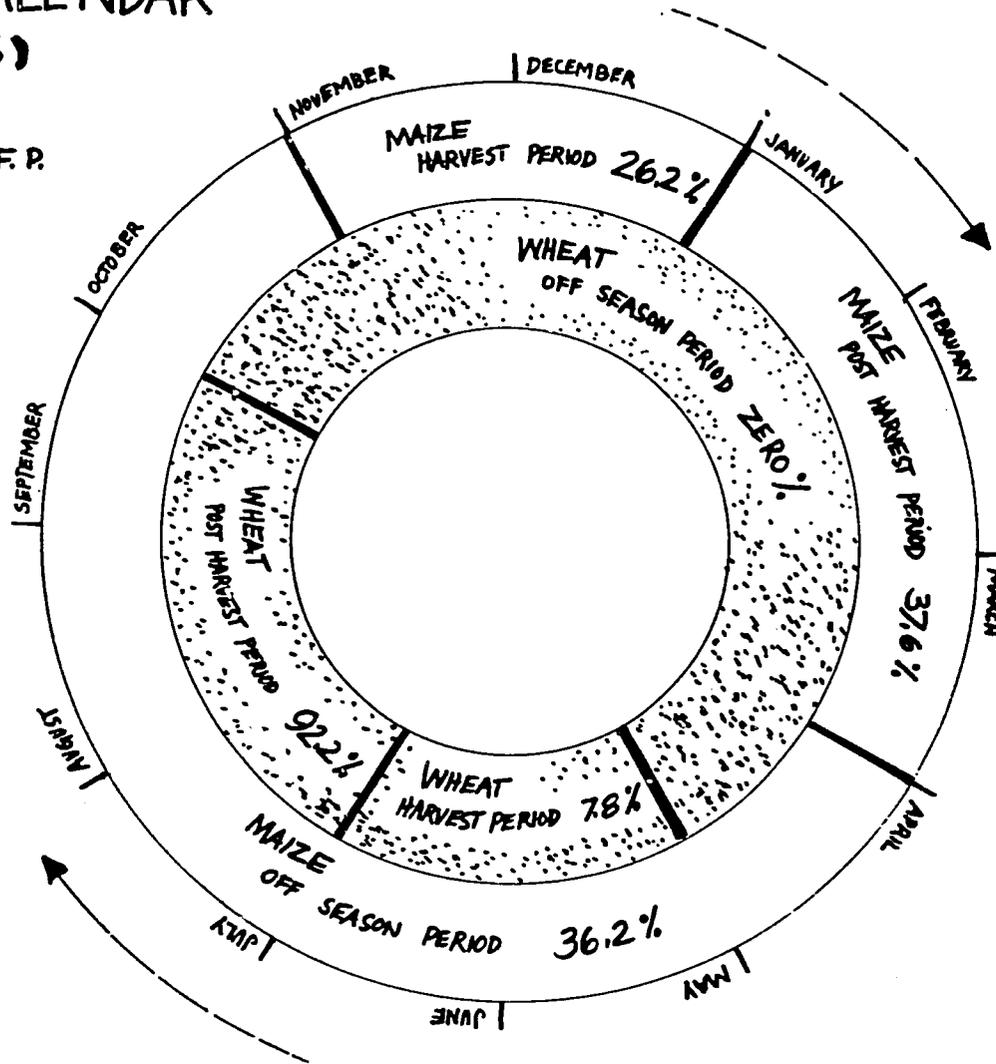
TEHSIL:

MANSEHRA

N.W.F.P.

1977-1978

— MAIZE  
 ··· WHEAT



in different periods wheat prices were high at harvest time. Contrary to the usual situation of low commodity prices during this period because of restricted sales by farmers.

The tests of correlation and 't' performed to see the relationship between farm size and harvest time sales indicated that farm size was related to harvest sales. In this case 'r' value obtained was 0.426 which was significant at .05 confidence level with 't' value = 2.70.

A negative relationship was observed between the level of harvest and post harvest prices, with 'r' value being - 0.371 and 't' value - 2.473. The reason for this relationship was that due to peculiar sale timings of farmers discussed earlier, prices were relatively lower at post harvest period as against the usual situation of low prices at the harvest time.

Marketing Channels and Place of Sale:- Table 5.2 below shows that 80 per cent of the sample farmers sold their produce in their own village. A small percentage of farmers marketed their surplus farm produce in Mansehra market directly. Oghi, and similar village primary mar-

kets attracted about 11 per cent and 6 per cent of the sample farmer's produce, respectively. This pattern of marketing farm products emerged due to the distant location of sample villages from, and difficult access to the central or village primary markets. For this reason, village 'beoparies' constituted the major channel for marketing farm produce in the study area. The farm products assembled by the village 'beoparies' were finally disposed of through either of the two big dealers operating in Mansehra market. Figure 5.2 and 5.3 depict the marketing channels respectively for maize and wheat in this study area.

Table 5.2: Place of Sale of Farm Produce

Farm Size	Own Village	Øghi	Mansehra	Other Markets (Nawazabad/ Jabori)	Total*
Small	17	1	-	1	19
Large	11	3	1	1	16
TOTAL	28 (80)	4 (11)	1 (3)	2 (6)	35 (100)

\* All sales through village shopkeeper/seasonal village 'beopari'.  
Figures in parentheses indicate the percentage of respondents.

ILLUSTRATION 5.2

MARKETING CHANNELS FOR MAIZE (NWFP)

MANSEHRA

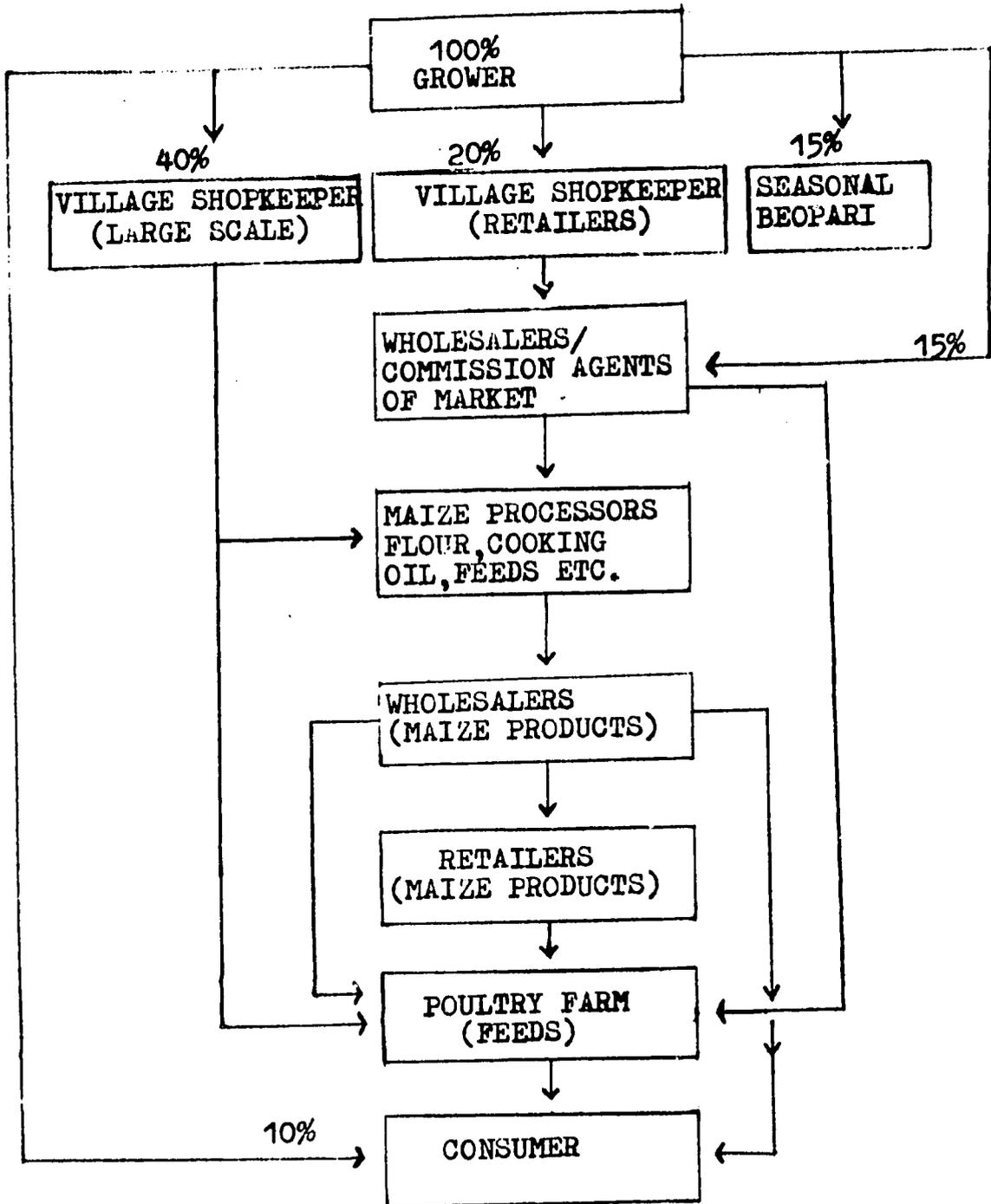
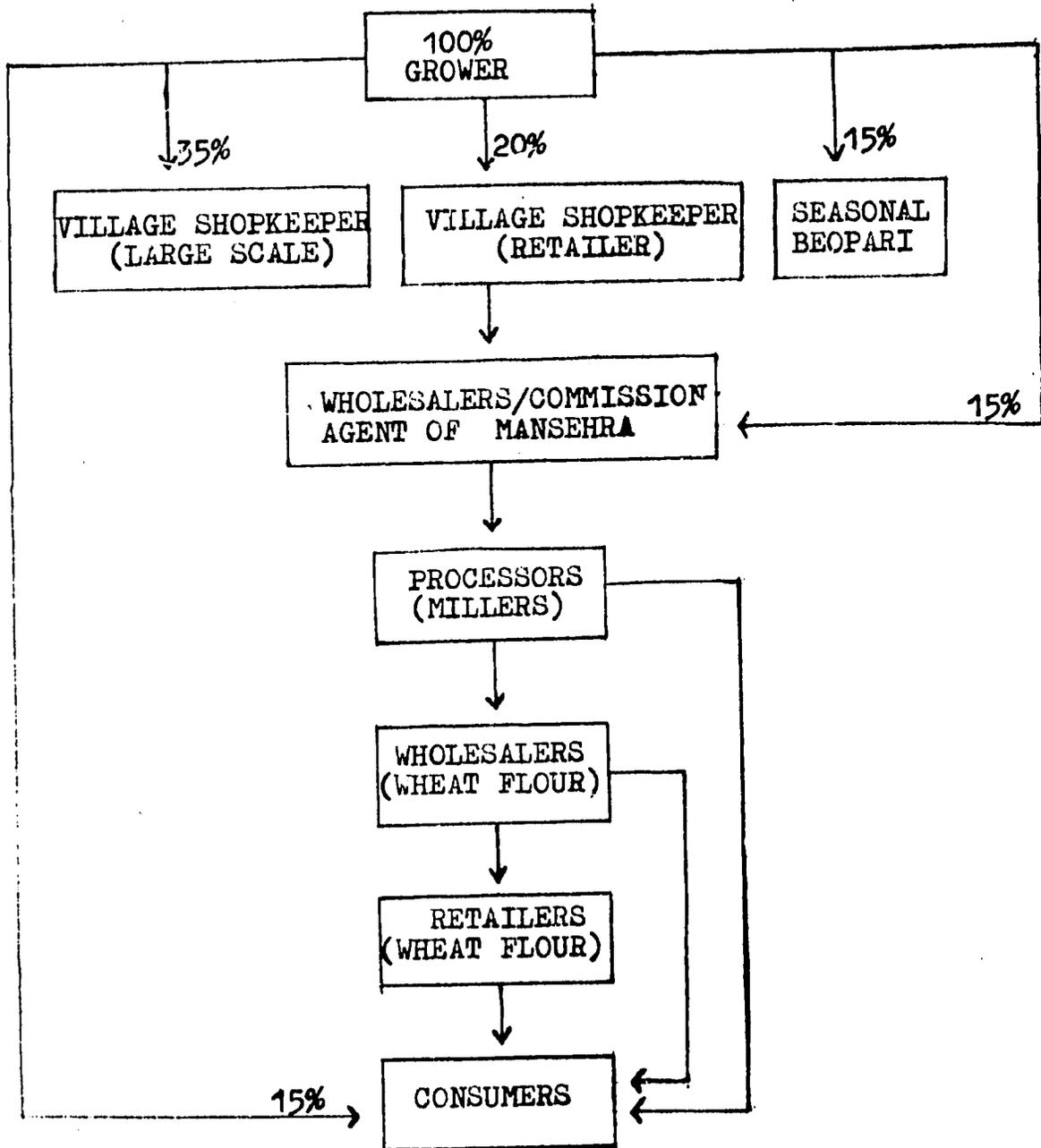


ILLUSTRATION 5.3

MARKETING CHANNELS FOR WHEAT (NWFP)

MANSEHRA



Transportation of Farm Produce:- As 80 per cent of the sample farmers sold a major portion of their farm produce right in their own villages, very little transportation of produce was involved at the farm level. Table 5.3 shows that about 43 per cent of the sample farmers did not use any transport means. Of the farmers selling a part of their produce in village primary markets or Mansehra wholesale market, 70 per cent used hired means of transport while the rest of them used their own means. Due to the peculiar road conditions, pack animals like donkeys emerged as the predominant and cheapest mode of transport, particularly for shorter distances. Use frequency of vehicular modes like the Suzuki van and truck was very small, and confined mainly to transportation of produce for longer distances beyond 6 miles. The transport cost per maund in the case of pack animals like donkeys was found to vary between Rs. 0.45 to 0.90, for short and long distances, while it was about Rs. 1/- per maund for carrying produce by vehicular modes over various distances.

Table 5.3: Transport Cost by Distance to Market and Type of Road

Mode	Respondents Using		Type of Road/Transport Cost per Maund							
	Hired Means	Owned Means	0 - 5 (miles)				6 -10 (miles)			
			Kacha		Pacca		Kacha + Pacca		Overall Average (Rs)	
			Number of Respondent	Average (Rs)	Number	Average (Rs)	Number	Average (Rs)		Total Hired
Donkey	7	6	3	1.0	2	0.4	2	1.2		7
Jeep	1	-	-	-	1	1.0	-	-	1	1.0
On Head	4	-	2	1.8	1	0.5	1	0.6	4	1.2
Suzuki Van	1	-	-	-	1	1.0	-	-	1	1.0
Truck	1	-	-	-	-	-	1	1.0	1	1.0
Not Used	15	-	-	-	-	-	-	-	-	-
TOTAL:	29	6	-	-	-	-	-	-	14	-

Due to the major sales in the village, no other marketing expenses such as commission, octroi, market fee, handling charges were paid by the farmers.

Price Information Sources and Use:-

Sample farmers used a variety of sources to collect market price information before sale of farm produce. The principal source mentioned by 61 per cent

of the respondents was the village 'beopari'/village shopkeeper. Fellow farmers and personal visit to the market were other important sources used by about 18 per cent of the farmers. Quite a few farmers made use of mass media like radio or newspapers for collecting price information. The sample farmer's major reliance on price information supplied by the village shopkeeper could mainly be attributed to the non-existence of an organized and competitive market in the study area, and hence non-availability of competitive price quotations for announcement on radio and in the newspapers.

Table 5.4: Market Price Information Sources

Farm Size	Personal Visit to the Market	News-paper	Fellow Farmer	Radio	Village Shopkeeper	Total*
Small	6 (20.0)	1 (3.3)	5 (16.7)	1 (3.3)	17 (56.7)	30 (100.0)
Large	3 (11.5)	-	5 (19.2)	1 (3.9)	17 (65.4)	26 (100.0)
TOTAL:	9 (16.1)	1 (1.8)	10 (17.9)	2 (3.6)	34 (60.7)	56 (100.0)

Figures in the parentheses indicate the percentage of respondents mentioning a particular source.

\* Multiple response.

Farm Storage Arrangements:-

The sample farmers used two main types of storage arrangements i.e., 'kacha ambar' and 'pacca ambar'. Among the small farmers 22 per cent used 'kacha ambar' with capacity up to 50 maunds. 39 per cent of the small farmers had 'pacca ambar' of the capacity ranging between 51-100 maunds, and 22 per cent having up to 50 maunds capacity. All the large farmers used only 'pacca ambar' with capacity ranging from 50 maunds to 150 maunds and above.

On the whole, about 41 per cent of the farmers had storage capacity between 51-100 maunds, while 26 per cent had storage capacity of 150 maunds of above. The storage arrangements were reported to be inadequate except for two of the small farmers who had no separate storage arrangements. The availability of proper storage with farmers was due to the fact that sample farmers used to store maize and wheat produce for quite a long period during the year. It is to be noted that 'pacca room' is the common mode of storage in 'barani' areas. As most of the houses

in these areas are 'pacca' type, a corner of the room is generally available with the majority of the farmers, for the storage of foodgrains. Due to limited surpluses, 'barani' farmers do not store farm products for speculative purposes and thus do not have to construct separate godowns. (Table 5.5)

Table 5.5: Storage Arrangements by Type and Capacity

Farm Size	Kacha Ambar	Type of Storage				Capacity in Maunds)
		1 - 50	51-100	101-150	151 & Above	Total
Small	4 (22.2)	4 (22.2)	7 (38.9)	1 (5.6)	2 (11.1)	18 (100)
Large	-	-	7 (43.8)	2 (12.5)	7 (43.8)	16 (100)
TOTAL	4 (11.8)	4 (11.8)	14 (41.2)	3 (8.8)	9 (26.4)	30 (100)

Figures in parentheses give the percentage of respondents with a given storage capacity.

The test of correlation indicated very weak relationship between farm size and storage capacity ( $r=0.154$ ,  $t=0.89$ ) because due to the peculiar sale program of farmers in this area, the sample farmers had adequate storage, as described above irrespective of the farm size category. The small as well as large farmers were storing their available produce till the prospects of next crop were known. For this purpose, all farmers were making adequate storage arrangements.

Purchase of Farm Inputs:- Mansohra Tehsil is partly rain-fed and partly irrigated. The irrigated and unirrigated fields are interspersed with each other. The farmers cultivating irrigated lands are making extended use of new inputs, but those operating the unirrigated fields take farming casually and find inputs like fertilizer, requiring heavy cash investments, too risky, particularly for winter crops, as the rainfall during this season is scanty and uncertain. For summer crops such as maize, for which the rainfall pattern is quite favourable, these farmers, however, do make use of inputs like fertilizer but on a limited scale, and that, too, on fields with better moisture retaining capacity. Information on the use of fertilizer by the sample farmers is given in table 5.6 below:

Table 5.6: Farm Inputs (Fertilizer) Purchases-  
Sellers Type and Location

Farm Size	Sellers' Type				Sellers' Location		
	Sample Size	Public Dealer	Private Dealer	Village Shopkeeper	Own Village	Other Village	Market Town*
Small	11 (100) (54.3)	5 (26.3) (83.3)	2 (10.5) (50.0)	12 (63.2) (48.0)	6 (31.6) (54.6)	6 (31.6) (42.9)	7 (36.8) (70.0)
Large	16 (100) (45.7)	1 (6.2) (16.7)	2 (12.5) (50.0)	13 (81.3) (52.0)	5 (31.2) (45.4)	8 (50.0) (57.1)	3 (18.8) (30.0)
TOTAL	35 (100) (100)	6 (17.1) (100.0)	4 (11.4) (100.0)	25 (71.5) (100.0)	11 (31.4) (100.0)	14 (40.0) (100.0)	10 (28.6) (100.0)

i) Upper parentheses indicate the percentage of respondents in each farm size category. ii) Lower parentheses indicate the percentage of respondents within small and large farm size category.  
\* Means Mansohra market.

As is evident from the above table, all the sample farmers were applying some quantities of fertilizer to some of their maize fields at the time of survey. The majority (72 per cent) of them purchased fertilizer from the shopkeepers located in their own village or nearby villages, due to easy accessibility. About 29 per cent of the sample farmers purchased fertilizer from public or private dealers located in the market town Mansehra.

Regarding types of fertilizer used, it was observed that almost all of the small farmers mainly used Urea. Use of Ammonium Sulphate (A.S.) and the Di-Ammonium Phosphate (DAP) type fertilizers was also reported by some of the respondents. Large farmers also used mainly Urea followed by A.S. and DAP.

As regards fertilizer prices, about 29 per cent of sample farmers purchased various types of fertilizer at control prices, as they purchased from public or private dealer located in Mansehra market. The rest of the farmers purchased various types of fertilizer at higher prices, varying between Rs. 5/- to 16/- above the official rates. The reasons for paying high prices were:

1. Fertilizer was purchased from village shopkeepers located at different places from sample villages.

The fertilizer price in this case included transport cost according to the distance and type of road, and dealer's profit margin.

2. Problems of availability of fertilizer during the crop season also influenced fertilizer prices and raised the village shopkeeper margin accordingly (See table 5.7).

Table 5.7: Farm Inputs Purchased  
(Fertilizer)

Fertilizer Type	Small Farmers					Large Farmers				
	Margin Above the Control Level Price (Rs./Bag)					Margin Above the Control Level Price (Rs./Bag)				
	Control Price	Upto 5	Upto 10	Upto 15	16 and Above	Control Price	Upto 5	Upto 10	Upto 15	16 and Above
Urea	7 (36.8)	2 (10.5)	5 (26.3)	3 (15.8)	-	1 (6.2)	1 (6.2)	7 (43.8)	-	-
DAP	5 (26.3)	1 (5.3)	2 (10.5)	-	-	1 (6.2)	5 (31.2)	1 (6.2)	1 (6.2)	-
A.S.	-	-	1 (5.3)	3 (15.8)	6 (31.6)	-	-	2 (12.5)	5 (31.2)	4 (25.0)
NP	1 (5.3)	1 (5.3)	1 (5.3)	-	1 (6.2)	1 (6.2)	1 (6.2)	2 (12.5)	1 (6.2)	-
AN	-	-	-	-	-	-	-	-	2 (12.5)	1 (6.2)

Figures in the parentheses indicate the percentage of respondents and have been worked out on the basis of sample size in each farm size category.

The fertilizer use pattern shows that nitrogen and phosphorous were not being used in appropriate dosage and proportions partly due to non-availability of fertilizer near the villages and partly due to high prices being charged by the village shopkeepers selling fertilizer. As may be seen, the major suggestion, therefore, made by more than 72 per cent of the respondents was that fertilizer outlets in the public sector be established in closer vicinity from where they could get supplies of various types of fertilizer.

Pesticides:- A majority of the sample farmers did not use pesticides. The user farmers obtained pesticides mainly from the Agriculture Extension Office located at the Union Council Headquarter on cash payment, but price paid per unit was not known to most of them.

Due to scant use of pesticides, the only major suggestion to enhance use of pesticides was that the supply of these pesticides be arranged in small labelled packets containing necessary instructions about their use.

Transportation of Inputs:- For the fertilizer purchased from Mansehra town and the neighbouring villages, Suzuki vans were the most common mode of transportation. Pack

animals like donkey were also frequently used for this purpose, but mainly for distances of less than 5 miles. For longer distances, Suzuki vans were being used.

The use frequency of various modes and the cost per bag incurred by small and large farmers varied considerably according to the distance covered. The table shows that the Suzuki van turned out to be the cheapest mode for different travel distances. (Table 5.8)

Table 5.8: Transportation Modes and Cost per Bag

Farm Size: Transport Mode	Small				Large			
	Distance Range (in miles)				Distance Range (in miles)			
	Upto 5	Upto 10	Above 10	Overall Average	Upto 5	Upto 10	Above 10	Overall Average
Bus	1 (2.0)	1 (1.5)	-	2 (1.8)	-	1 (2.0)	1 (4.0)	2 (3.0)
Donkey	6 (2.0)	-	-	6 (2.0)	4 (2.3)	-	-	4 (2.3)
Jeep	-	-	-	-	1 (1.0)	1 (2.0)	-	2 (1.3)
On Head	2 (2.5)	-	-	2 (2.5)	1 (2.0)	-	-	1 (2.0)
Suzuki Van	2 (2.0)	5 (3.9)	2 (4.0)	9 (3.5)	4 (1.4)	1 (4.0)	-	5 (1.9)
TOTAL	11	6	2	19*	10	3	1	14

Figures under each column indicate the number of respondents using a particular mode of transport, while figures in parentheses show the average cost of transport in Rs./bag for various distance ranges.

\* Multiple response.

Problems of Input Supply:- As reported earlier, fertilizer was the main improved input used by all the sample farmers. The user farmers reported facing several problems in obtaining this input. As may be seen from table 5.9, under weighment and non-availability at the right time and within easy reach were the two major problems reported by the majority of the respondents. Other problems mentioned by a small minority of the respondents were: (a) supplies mixed with foreign material, (b) charging of prices above the control level, (c) fertilizer supply in torn/unsealed bags, and (d) poor quality of fertilizer.

Table 5.9: Problems Regarding the Supply of Fertilizer

Farm Size	Stone Mixed	Under Weight Bags	Not Available on Time	Bag Torn/ Bag not Sealed	Bad Quality	Not Available on Government Rate	Total*
Small	1 (4.8) (25.0)	7 (33.3) (43.8)	7 (33.3) (46.7)	5 (23.8) (62.5)	1 (4.8) (20.0)	-	21 (100) (41.2)
Large	3 (10.0) (75.0)	9 (40.0) (56.2)	8 (26.7) (53.3)	3 (10.0) (37.5)	4 (13.3) (80.0)	3 (10.0) (100)	30 (100) (58.8)
TOTAL	4 (7.8) (100)	16 (31.4) (100)	15 (29.4) (100)	8 (15.7) (100)	5 (9.8) (100)	3 (5.9) (100)	51 (100) (100)

Figures in the upper parentheses indicate the percentage of responses in each farm size category, while the lower ones show responses between small and large farm categories.

\* Multiple response.

Credit Utilization:- Credit use among sample farm families was limited as about 23 per cent of them reported to have borrowed funds for certain uses. Table 5.10 shows that about 19 per cent of the credit users among large farmers got credit from institutional sources, while none of the small farmers mentioned obtaining any loan from this source. The remaining credit users were getting credit mainly from the non-institutional sources. The average amounts borrowed from the institutional and non-institutional source was Rs. 5363 .) and 2875 respectively. The average level of borrowing from the institutional source may be misleading as one of the borrower had obtained an exceptionally large amount for afforestation.

Table 5.10: Credit Use by Sample Farmers

Farm Size	Credit Use*		Amount Borrowed From**		Purpose of Loan***	
	Non-Users	Users	Institutional	Non-Institutional	To Purchase Farm Inputs/for Afforestation	Domestic Use
Small	16 (84.2)	3 (15.8)	-	17500 (15.8) (100.0)	3 (37.5)	2 (66.7)
Large	11 (68.8)	5 (31.2)	42900 (18.8) (86.6)	5500 (12.5) (11.4)	5 (62.5)	1 (33.3)
TOTAL	27 (77.1)	8 (22.9)	42900 (8.6) (65.1)	23000 (14.3) (34.9)	8 (100)	3 (100)

\* The figures in parentheses indicate the proportion of respondents in a given size farm category.

\*\* The figure in upper parentheses indicate the proportion of respondents obtaining credit from different sources, while those in the lower parentheses given the percentage use of the loan from different sources.

\*\*\*The figures in parentheses indicate the proportion of respondents within each size category.

Funds were mainly used for the purchase of farm inputs and for meeting various domestic needs. Among the small farmers, 67 per cent used non-institutional credit for domestic purposes and the remaining for purchasing farm inputs. This pattern of credit use by small farmers emerged because their limited farm income was insufficient to meet their consumption needs. The large farmers, however, used major portion of loan amount for financing farm input purchase because they had enough income of their own to meet family needs.

The institutional loans were reported to have been obtained on security at an interest rate of 13 per cent. Non-institutional loans were obtained from friends and relatives on reciprocal basis without any interest charges.

Improvement in Credit Programme:- Suggestions for improving credit programme were mainly offered by the credit users. More than 80 per cent of the large and about 20 per cent of the small sized credit-using farmers emphasized that institutional credit facilities under simplified loaning procedure and on low interest rates should be made available to them.

N. W. F. P.

C H A P T E R - VI

MARKETING PRACTICES OF DEALERS

Dealer's Business Profile:-

Commodities Handled:- The business pattern of sample 'barani' dealers of NWFP was similar to the dealers of the 'barani' Punjab. The sample dealers were dealing in more than one commodity according to the availability of marketable surpluses. As may be seen from table 6.1 below more than 70 per cent sample dealers were handling up to 4 commodities, while about 30 per cent were dealing in 5 to 6 commodities. The number of dealers handling one or two commodities was small. No dealer, however, specialized in one commodity. The sample dealers, comprised mainly of village shopkeeper/'beoparies' who were also handling non-agricultural goods like cloth, salt, soap and fertilizer to supplement their income and off-set the effect of low business volume during slack periods.

Table 6.1(a): Number of Commodities Handled by Dealership Size

Size of Dealer	Number of Commodities Handled		
	Upto 4	Above 4	Total
Small	7 (87.5)	1 (12.5)	8 (100)
Large	5 (55.6)	4 (44.4)	9 (100)
TOTAL	12 (70.6)	5 (29.4)	17 (100)

The figures in the parentheses indicate the percentage of respondents.

2. Volume of Commodities handled, and Seasonal Variability by Dealership Size:-

As discussed earlier, 'kharif' crops like maize dominated the cropping pattern of the NWFP study area. Hence, about 79 per cent of the business conducted by 'barani' dealers consisted of 'kharif' products, of which maize contributed the largest proportion. The remaining 21 per cent business came from 'rabi' crops, mainly oilseeds (sarson). A similar pattern emerged with reference to dealership size; small and large dealers handled 86 per cent and 78 per cent of business volume during

'kharif' respectively. The reason for handling the major business volume during 'kharif' was that the principal 'rabi' crop like wheat was consumed mainly at the village level by the local population, allowing a very negligible flow of marketable surplus. The major product thus reaching the market was sarson. Large dealers were able to assemble a considerably larger amount of 'rabi' products despite their limited marketable surplus due to their large scale of operation. Contrary to this, small dealers, due to their limited scale of operation were striving their maximum to handle as large volume of 'kharif' crops as possible in order to generate income sufficient to meet their annual financial requirements (Table 6.1(b)).

Table 6.1(b): Volume of Commodities Handled Classified by Season/Dealership Size

Dealer Size	Kharif	Rabi	Total
Small	2404.6 (85.5)	408.5 (14.5)	2816.1 (100)
Large	8411.3 (77.9)	2391 (22.1)	10802.5 (100)
TOTAL	10819.0 (79.4)	2799.5 (20.6)	13618.5 (100)

Figures in the parentheses indicate the percentage of quantity handled by small and large dealers.

As a general phenomenon each commodity exhibited two major arrival periods, one at harvest time/immediate post harvest months (the peak months) and the other during off-season (the slack period). The business activity also followed this seasonality of arrivals. About 74 per cent of the business volume of each commodity was handled during peak months, the rest during off-season. The proportion of business volume handled by small and large dealers during peak and slack periods also followed a similar pattern as may be seen from table 6.1(c).

Table 6.1(c): Volume of Business Handled - Seasonal Variability

Dealer Size	BUSINESS PERIOD		
	Peak*	Slack	Total
Small	2782.5 (98.8) (27.7)	33.5 (1.2) (0.9)	2816.0 (100) (20.7)
Large	7252.0 (67.1) (72.3)	3550.5 (32.9) (99.1)	10802.5 (100) (79.3)
TOTAL	10034.5 (73.7) (100)	3584.0 (26.3) (100)	13618.5 (100) (100)

Figures in upper parentheses indicate relative business volume conducted during peak and slack periods, while lower parentheses indicate proportion of the volume handled by small and large dealers.

\* Peak period refers to the period when commodity arrivals in the market are a maximum. For example, in case of maize, January-April in NWFP.

Market Price Structure:- The market price structure has been discussed here for three major commodities, namely maize (kharif) and sarson and wheat (of rabi season). The market prices refer to the prices at which village dealers operating in various primary markets were purchasing farm produce from farmers. The prices were based on the prices announced by the single large dealer of Mansehra market. The commodity prices explained here relate to the two arrival periods as discussed in the earlier section. Dealer distribution in various price ranges for different commodities during peak and slack periods is also taken into account.

Maize:- An overall price differential of Rs. 1 to 5 per maund was observed in comparing purchase to sale transactions of maize during the peak season. A large number of dealers (48 per cent) made purchases within the price range of Rs. 41 to 45/ maund and 47 per cent sold these commodities at prices ranging between Rs. 46 to 50/- maunds. The small and large dealers' distribution also exhibited similar pattern. However, small dealers being more cautious sold the commodities purchased by them

at a lesser margin to secure minimum possible profit  
(Table 6.2 a ).

Table 6.2(a): Market Price Structure-  
Maize Crop

Price Range Rs/Md	PEAK SEASON					
	PURCHASE			SALE		
	Dealer Size		Total	Dealer Size		Total
Small	Large	Small		Large		
26-30	-	-	-	-	-	-
31-35	-	-	-	-	-	-
36-40	2 (20.5)	-	2 (9.5)	-	-	-
41-45	5 (50.0)	5 (45.5)	10 (47.6)	6 (54.5)	1 (12.5)	7 (36.8)
46-50	3 (30.0)	5 (45.8)	8 (38.1)	4 (36.4)	5 (62.5)	9 (47.4)
51-55	-	1 (9.1)	1 (4.8)	1 (9.1)	2 (25.0)	3 (15.8)
<b>Total:-</b>	10 (100)	11 (100)	21 (100)	11 (100)	8 (100)	19 (100)

6.2 (b) SLACK SEASON

26-30	-	1 (10.0)	1 (9.1)	-	-	-
31-35	1 (100)	1 (10.0)	2 (18.2)	-	-	-
36-40	-	1 (10.0)	1 (9.1)	1 (100)	1 (12.5)	2 (22.2)
41-45	-	1 (10.0)	1 (9.1)	-	1 (12.5)	1 (11.1)
46-50	-	5 (50.0)	5 (45.4)	-	4 (50.0)	4 (44.5)
51-55	-	1 (10.0)	1 (9.1)	-	2 (25.0)	2 (22.2)
<b>TOTAL</b>	1 (100)	10 (100)	11 (100)	1 (100)	8 (100)	9 (100)

Figures in parentheses give the percentage of respondents.

Price ranges of purchase and sale of maize exhibited a somewhat larger differential during slack period. Another important feature which emerged was that almost all purchases and sales during slack months were made by large dealers. This shows that small dealers had a seasonal business on a limited scale involving minimum possible price fluctuation risk, (table 6.2-b). Maize prices were also related to the volume of the commodity arrival. Figures 6.1 and 6.2 shows the price phenomenon with reference to the volume assembled by dealers. It shows that prices were the lowest during February when commodity arrival was maximum. Similarly, prices touched the highest level in July, when maize arrivals were the lowest.

Of the 17 dealers handling maize, the majority (59 per cent) were earning a gross profit margin of Rs. 1 to 2 per maund during slack season. The profit margin varied with the dealer size. About 72 per cent of small dealers were earning only Rs. 1 to 2 per maund, while large dealers were equally distributed in the range of Rs. 1 to 2 and 3 to 4 per maund.

FIGURE 6.1 MAIZE ARRIVALS  
(N.W.F.P.)

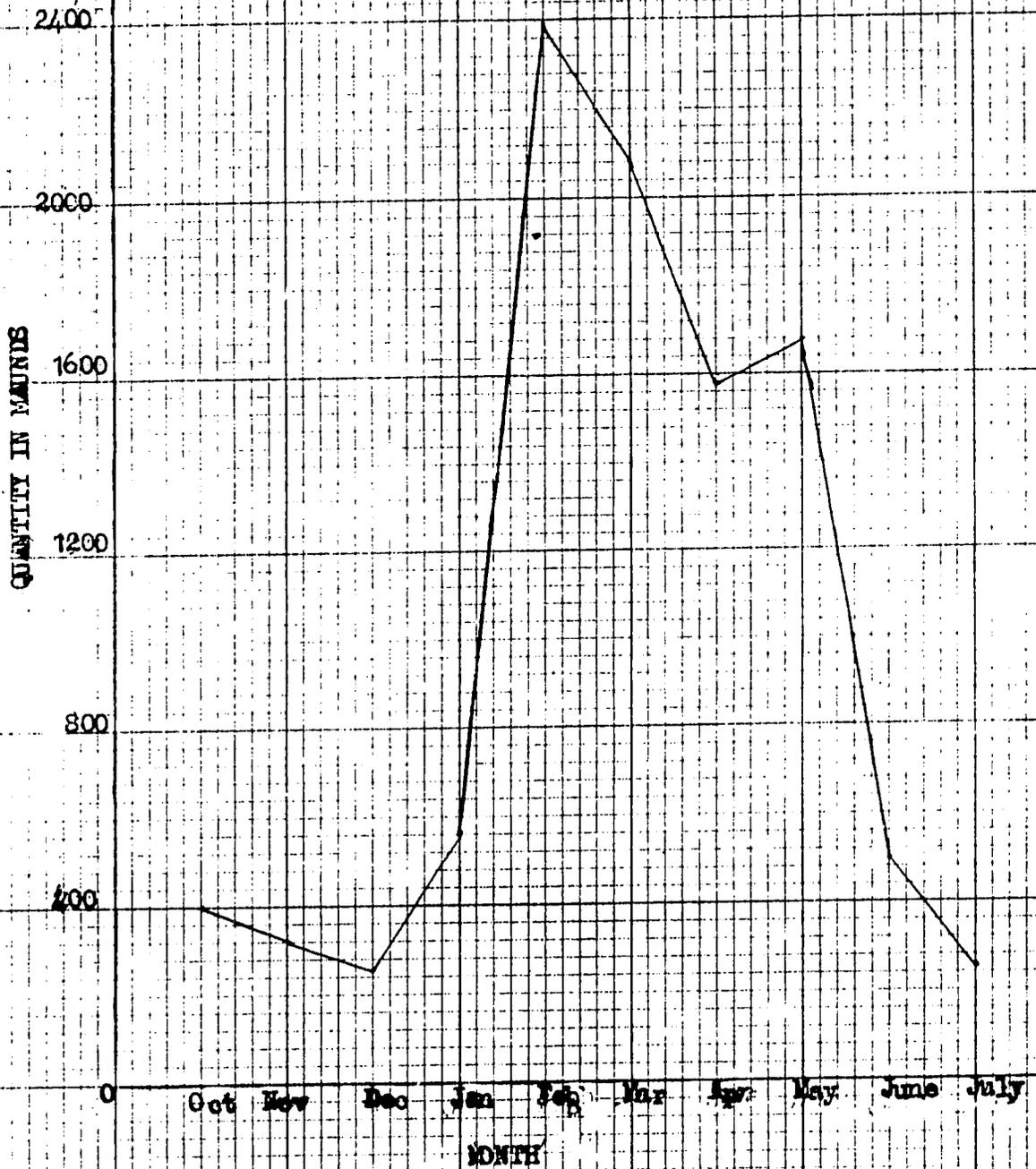
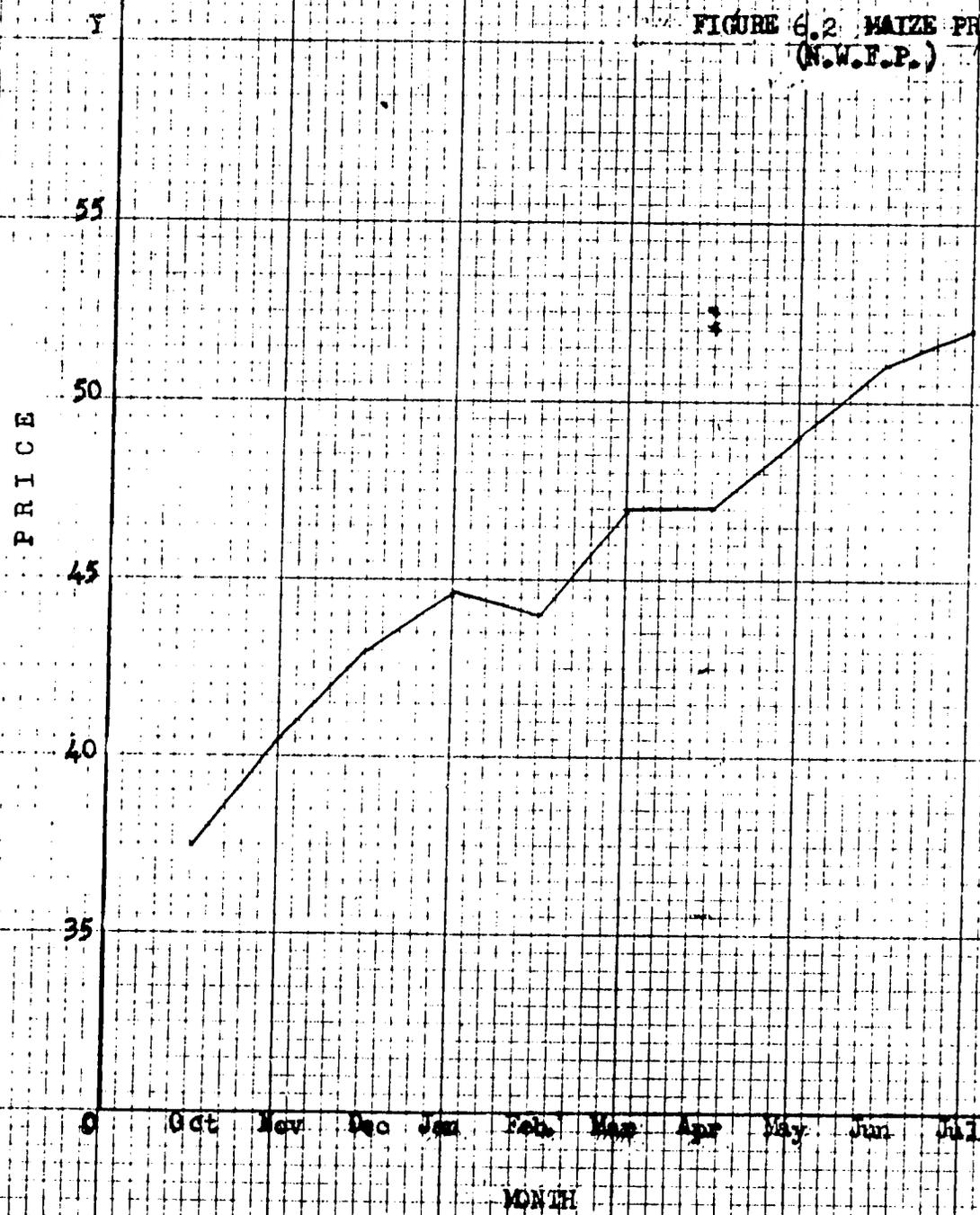


FIGURE 6.2 MAIZE PRICES  
(N.W.F.P.)



Sarson:- Sarson was the major 'rabi' crop inducing larger buying activity during the season. Table 6.2(c) shows that peak purchases of sarson by small and large dealers were distributed over various price ranges from Rs. 71-80 to 110-120 per maund. No clear dealer concentration emerged in any price range. Sales made, however, were within 91-100 onward, which showed a large margin compared to the maize crop.

Table 6.2(c): Market Price Structure-Sarson (NWFP)

Price Range Rs/Md	PEAK SEASON					
	PURCHASE			SALE		
	Dealer Size			Dealer Size		
	Small	Large	Total	Small	Large	Total
61-70	-	-	-	-	-	-
71-80	-	1 (16.6)	1 (10.0)	-	-	-
81-90	1 (25.0)	2 (33.3)	3 (30.0)	-	-	-
91-100	1 (25.0)	1 (16.7)	2 (20.0)	1 (33.3)	2 (40.0)	3 (37.5)
101-110	2 (50.0)	1 (16.7)	3 (30.0)	2 (66.7)	1 (20.0)	3 (37.5)
111-120	-	1 (16.7)	1 (10.0)	-	2 (40.0)	2 (20.0)
TOTAL	4 (100)	6 (100)	10 (100)	3 (100)	5 (100)	8 (100)
	(d) <u>SLACK SEASON</u>					
61-70	-	1 (33.3)	1 (20.0)	-	-	-
71-80	2 (100.0)	-	2 (40.0)	-	1 (33.3)	1 (25.0)
81-90	-	2 (66.7)	2 (40.0)	1 (100.0)	1 (33.3)	2 (50.0)
91-100	-	-	-	-	1 (33.4)	1 (25.0)
101-110	-	-	-	-	-	-
111-120	-	-	-	-	-	-
TOTAL	2 (100)	3 (100)	5 (100)	1 (100)	3 (100)	4 (100)

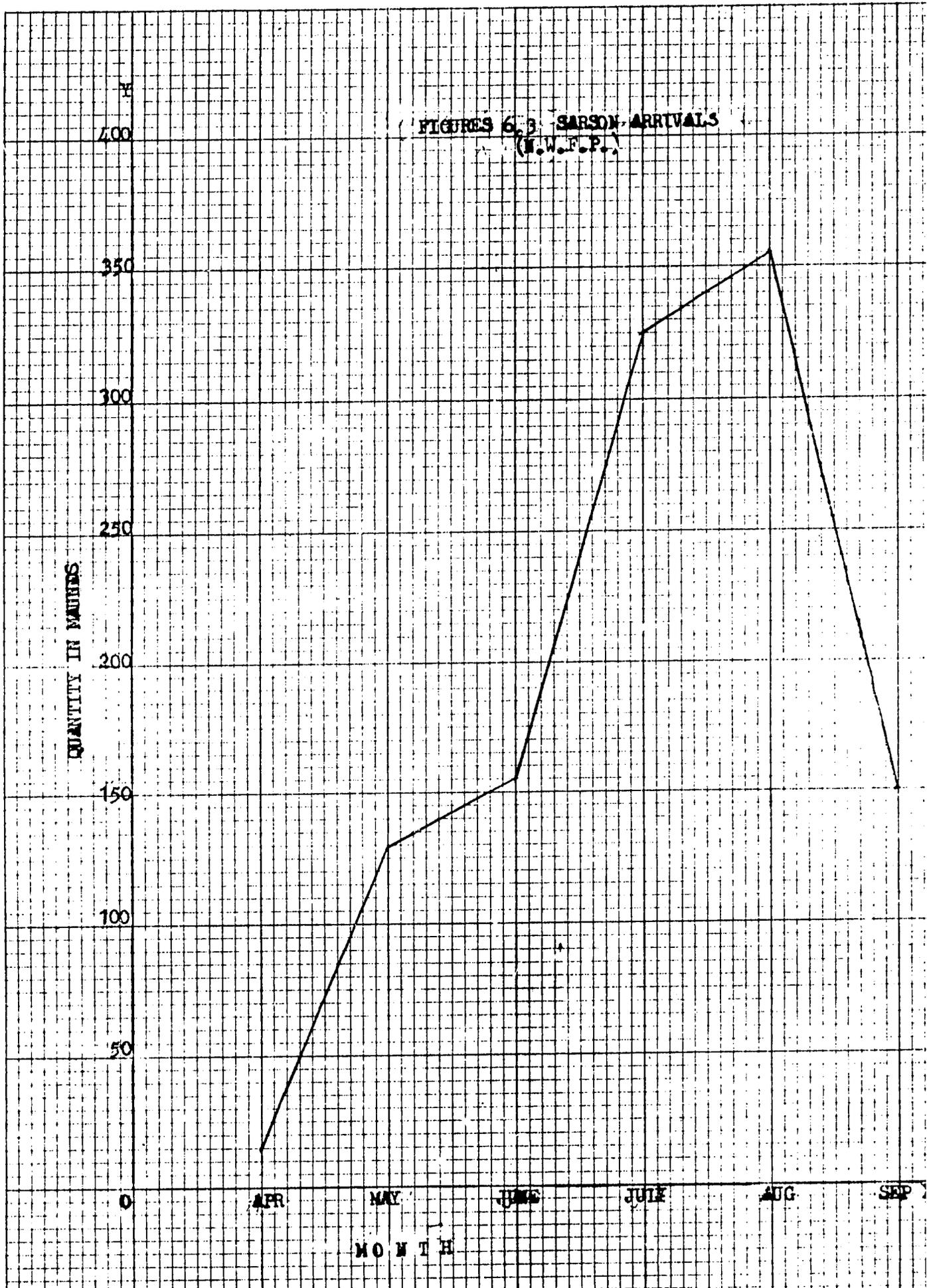
Figures in parentheses give the percentage of responses.

During slack season, large dealers were more active for similar reasons both in sarson and maize (table 6,2-d).

Only nine dealers handled sarson. A large percentage of dealers earned a gross margin between Rs. 5 and above per maund and large dealers were earning a higher profit margin than the small ones. Sarson prices also exhibited a similar seasonality as discussed under maize. Figure 6.3 and 6.4 illustrate the same.

Wheat:- Due to limited wheat production and consequent meager amount of marketable surplus, the commodity was <sup>traded</sup> only during the peak season, that too, mainly for local consumption. On dealership size basis, small dealers made more purchases of wheat primarily for local distribution. The price differential of purchase and sale ranged between Rs. 1 to 5 per maund (Table 6.2-e).

Table on next page....



Y  
PRICE  
110  
100  
90  
80  
70  
0

FIGURES 6.4 SARSON PRICES  
(N.W.F.P.)

APR MAY JUNE JULY AUG SEP  
MONTH

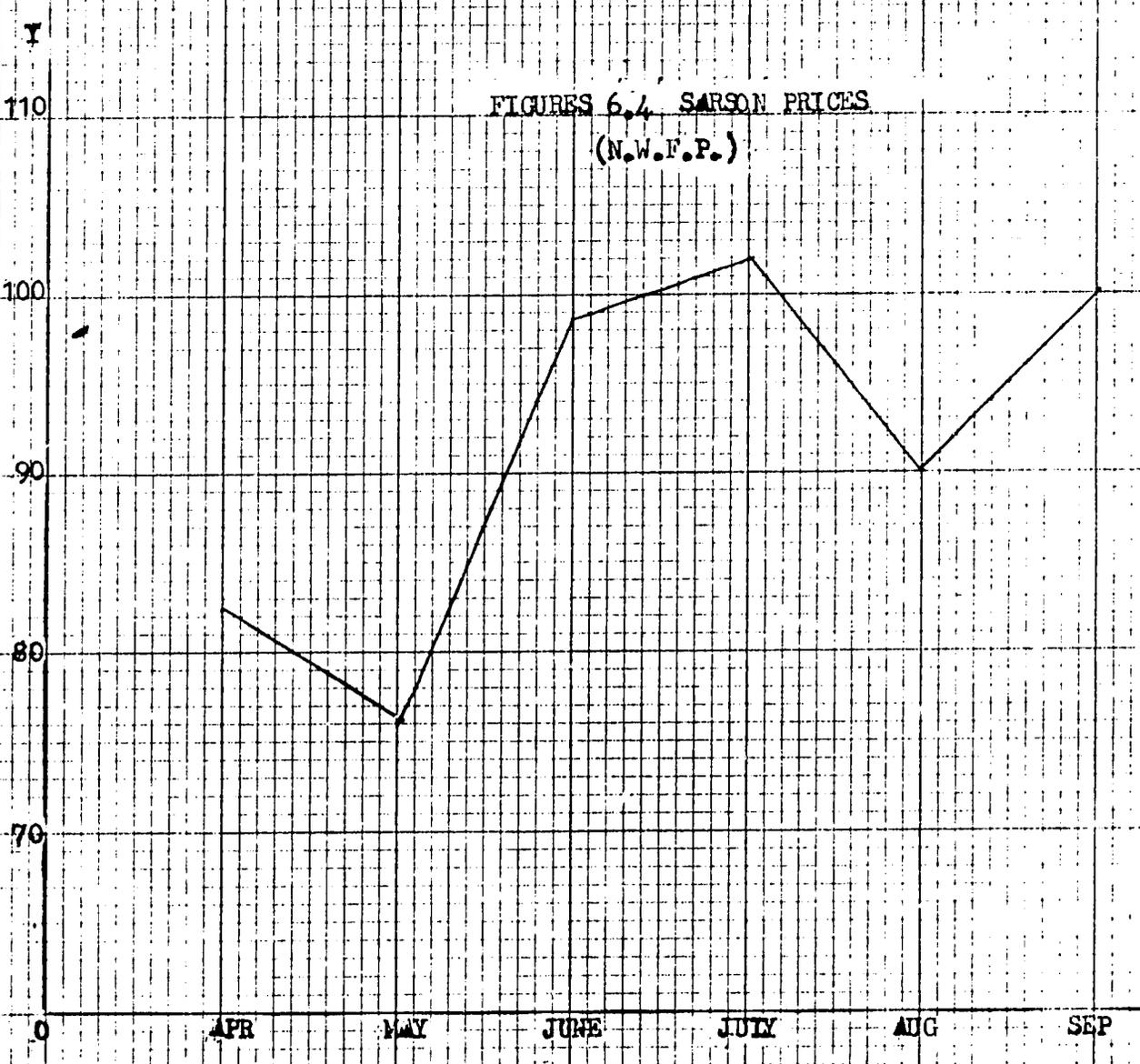


Table 6.2(e): Market Price Structure-Wheat

PEAK SEASON

Price Range Rs/Md	PURCHASE			SALE		
	Dealer Size			Dealer Size		
	Small	Large	Total	Small	Large	Total
36-40	3 (50.0)	-	3 (30.0)	1 (16.7)	-	1 (10.0)
41-45	2 (33.3)	-	2 (20.0)	3 (50.0)	-	3 (30.0)
46-50	1 (16.7)	3 (75.0)	4 (40.0)	1 (16.7)	1 (25.0)	2 (20.0)
51-55	-	1 (25.0)	1 (10.0)	1 (16.6)	3 (75.0)	4 (40.0)
TOTAL	6 (100)	4 (100)	10 (100)	6 (100)	4 (100)	10 (100)

Figure indicate percentage of respondents in each range.

Wheat was handled by 10 dealers (6 small, 4 large). A majority of the large dealers (75 per cent) were earning a profit ranging between Rs. 1 to 2 per maund. Whereas, small dealers were equally distributed in the profit ranges of Rs. 1 to 2 and Rs. 5 and above.

Marketing Calendar:- Dealer marketing activities predominately followed the major commodity arrival months. The months of largest commodity arrivals were termed as

'peak' while the others as 'slack'. Among the 'kharif' crops, 66 per cent of the maize and 100 per cent of rice volume was purchased during January to April, and the remaining during May to December, following peak or slack seasonality of producer marketing. Similarly, sarson, the only important 'rabi' crop, (and also wheat) was purchased during June to September i.e., during the immediate post harvest months. (See table 6,3).

Dealers timing of sales of these products also followed a similar seasonality pattern as discussed above. Table 6.3 shows that the sales were distributed over peak and slack periods, most sales being during the peak months for all commodities. The balances carried over were disposed of during the off-season period. Figures 6.5(a) and 6.5(b) also indicate the marketing calendar for various commodities handled (purchased and sold) during peak and slack seasons.

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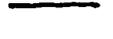
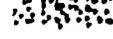
# MARKETING CALENDAR : PURCHASE

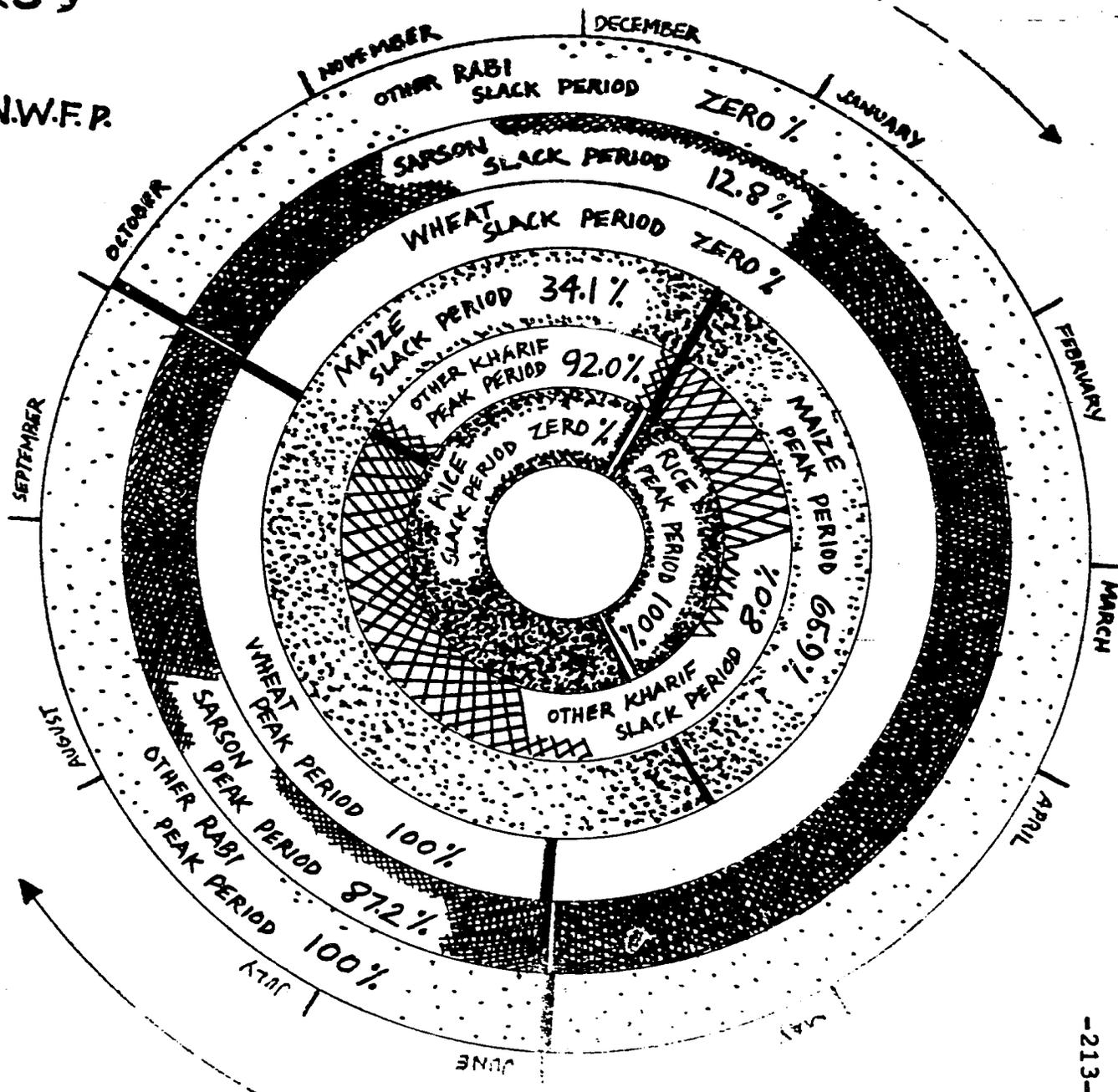
## TEHSIL: (DEALERS)

MANSEHRA

N.W.F.P.

1977-1978

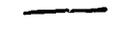
- OTHER RABI 
- SARSON 
- WHEAT 
- MAIZE 
- OTHER KHARIF 
- RICE 



# MARKETING CALENDAR: SALE

(DEALERS)  
 TEHSILI MANSEHRA  
 N.W.F.P.

1977-1978

- OTHER RABI 
- SARSON 
- WHEAT 
- MAIZE 
- OTHER KHARIF 
- RICE 

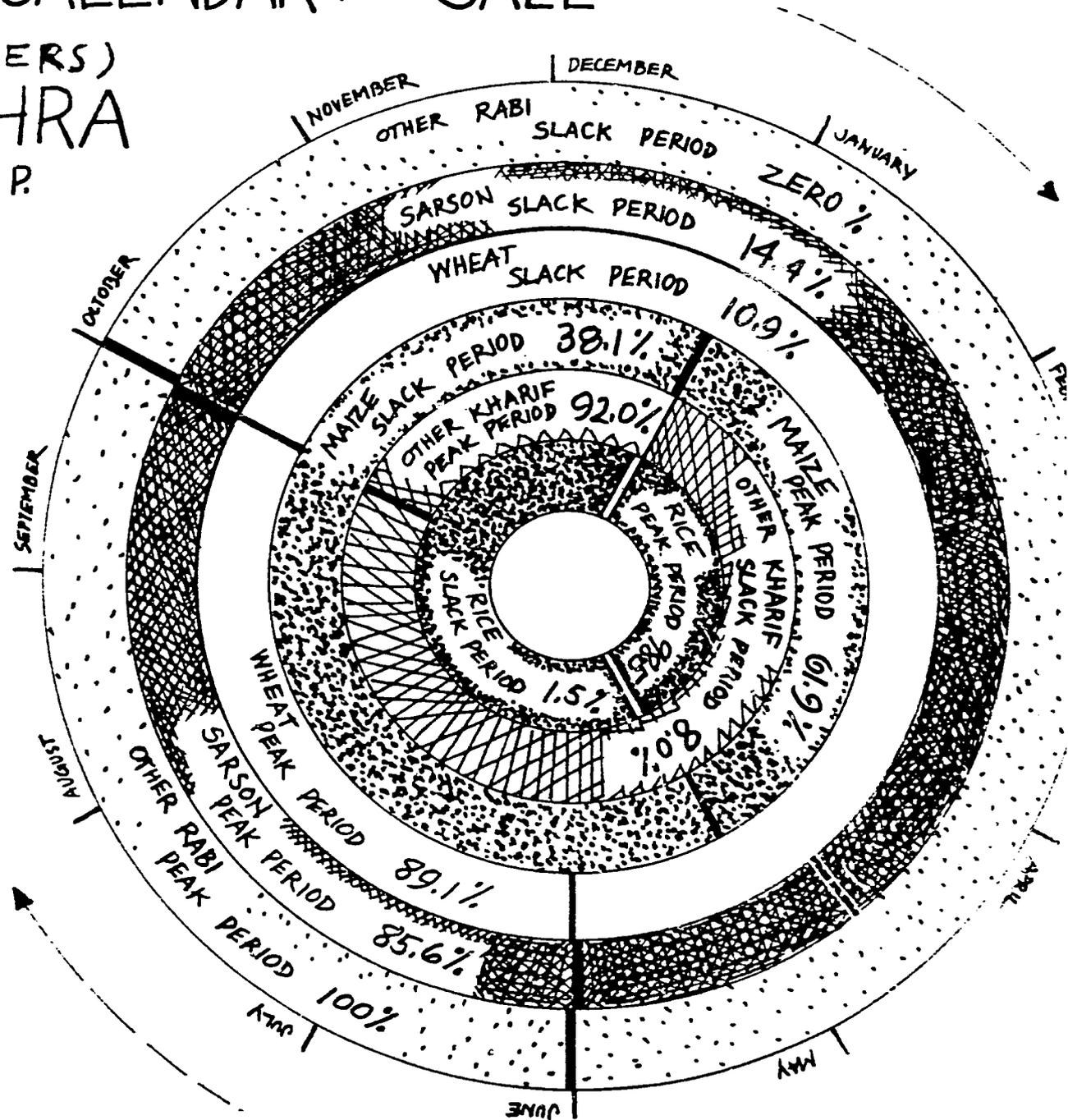


Table 6.3: Marketing Calendar  
Purchase and Sale (NWFP)

Commodity	(quantity in maunds)			
	PURCHASE		SALE	
	Peak	Slack	Peak	Slack
Maize*	6556 (65.9)	3392 (34.1)	6156 (61.9)	3787 (38.1)
Rice*	279 (100)	-	270 (98.5)	4 (1.5)
Other Kharif**	544.5 (92.0)	47.5 (8.0)	544.5 (92.0)	47.5 (8.0)
Wheat**	920 (100)	-	815 (89.1)	100 (10.9)
Sarson**	986 (87.2)	144.5 (12.8)	966 (85.6)	163 (14.4)
Other Rabi**	749 (100)	-	748.5 (100)	-

Include Kharif pulses and potato

Include Masoor and Barley.

\* January to April (Peak) - May to December (Slack)

\*\*October to December " - Jan to September "

\*\*January to September" - Oct to May "

Figures in parentheses give percentage.

4. Marketing Channels:- The marketing channels have been discussed for two principal food crops of the area i.e. maize and wheat. As discussed earlier, the product distribution system in this area is very complex, which is an important feature of a centralized marketing system. Figure 5.2 and 5.3 illustrate the various channels for both the commodities of maize and wheat. The major channels through which these commodities were observed to pass before reaching the consumer were village seasonal

'beoparies', wholesalers (grain market), processors, flour wholesaler and retailers. The maize products such as poultry feed were also distributed through feed retailers.

The implication of such a distribution pattern is that margins at each marketing level may not be wide, but they accumulate so that they are substantial for the whole marketing system. Marketing services provided or value added may also not be commensurate with the magnitude of the margin. Due to the large number of functionaries involved, individual market shares might also not essentially be high. The share in consumer rupee of each intermediary usually corresponds to its scale of operation. The wholesalers/processors were presumably sharing the largest proportion of marketing margin.

Business Costs:-

The scale of business operation of village dealers of the sample area was limited as compared to the dealers of Punjab's markets. Accordingly, their monthly business expenditure was also relatively much less. However, due to great similarity in the business activities of both the sample areas, business cost items were almost similar. Thus the major components of business costs of the dealers of Mansehra village markets were staff wages, transportation and handling of produce, shop and godown

rent, and entertainment. Among these costs, entertainment and shop/godown rent formed the largest share of total cost structure, the respective percentages being 40 and 29. About 15 per cent of total cost came due to staff wages which was comparatively higher in the case of large dealers viz-a-viz the small dealers who were sparingly employing 'Munshi' to assist in their business due to lower volume handled per annum. Considering all items constituting dealer business cost structure, the average monthly expenditure of sample dealers came to Rs. 157/-. Large dealers were, however, incurring almost more than double the business cost of small dealers (Table 6.4).

The relationship between dealership size and business costs was examined through test of correlation. The value of correlation coefficient 'r' was found 0.98, which was highly significant at 0.05 level of confidence implying very strong correlation between business costs and dealership size.

Table on next page,...

Table 6.4: Monthly Average Business Costs and  
Other Expenses

-----Cost Components-----

Dealer Size	Staff Wages	Taxes	From Seller's Location Transportation	Shop Rent	Godown Rent	Enter-tainment	Others*	Total
Small	3.1 (2.3)	1.1 (1.2)	5.7 (6.0)	27.5 (28.9)	3.8 (3.9)	51.9 (54.5)	2.1 (2.2)	95.2 (100.0)
Large	40.0 (18.9)	3.2 (1.5)	13.2 (6.3)	50.4 (24.9)	8.3 (3.9)	72.2 (34.2)	23.8 (11.3)	211.2 (100.0)
Weighted Average	22.6 (14.5)	2.2 (1.4)	9.7 (6.2)	39.6 (25.3)	6.3 (3.9)	62.6 (40.0)	13.6 (8.7)	156.6 (100.0)

No telephone charges.

\* Personal travel expenses to recover amounts and other handling charges.

Figures under each column indicate average amount of each cost item, in rupees, and figures in parentheses show proportionate share of each cost item in the total.

Marketing Charges Passed on to Farmers:- Supposedly, the village dealers were passing on some charges to the farmers as a part of their business practice. As may be seen from table 6.5 that charges averaging Rs. 2.72 per maund were being passed on to the farmers by the dealers. Among these charges, loss in weight due to moisture/mixture in monetary terms ranked the highest (65 per cent) of all charges passed on to farmers. The other important charges included transportation cost (17 per cent) and price discount due to low quality (14 per cent). Storage charges passed on to farmers were nominal, because the farm products were not stored by dealers for long periods. For short periods, the dealers did not consider it an important expense needed to be passed on to farmers.

Table 6.5: Marketing Charges Passed on to Farmers

Dealer Size	(Average amount per maund)				Total
	Storage Charges	Loss in Weight/Moisture etc.,	Discount on Quality	Other Charges	
Small	0.1 (3.6)	2.5 (75.8)	0.5 (17.0)	0.1 (3.6)	3.3 (100)
Large	0.1 (5.0)	1.1 (50.7)	0.2 (10.0)	0.7 (34.3)	2.2 (100)
Weighted Average	0.1 (4.4)	1.7 (64.7)	0.4 (14.0)	0.5 (16.9)	2.7 (100)

Figures under each column indicate average amount/maund of charges. Figures in parentheses indicate proportion of each charge among the total.

The table also shows that charges on account of loss in weight, and quality discount, were the most important for small dealers, while loss in weight, and transportation charges were important charges passed on by large dealers. No sale commission was reported to have passed on to farmers.

Pricing Practices:-

Price formation methods followed between dealers and between farmers and dealers of Mansehra study area has been discussed in an earlier section. There was only one large buyer in Mansehra market who used to set the basis for price formation in village primary markets on the basis of price quotations of the regional markets he was dealing with. Price formation between village dealers and farmers took place with reference to the prices announced by that single large buyer. Pricing practices practically did not leave much scope for the interplay of supply and demand on farm product prices in the local market.

The prices announced by the large buyer exhibited a margin of Rs. 3/- to 5/- per maund between

prices prevailing in regional markets. This margin was passed on to dealers for purchasing farm products from farmers keeping in view the volume of products transacted; on large volumes the margin being Rs. 3/- and on small lots Rs. 5/-. The distance involved in shipment of farm produce was also considered in setting the margin between the prices of Mansehra market dealer and that of village dealers purchase prices (or the farmer's sale prices). The sample dealers and farmers were asked to express their views regarding the fairness and efficacy of this pricing practice. Both the dealers and the farmers expressed satisfaction over the nature, reliability and adequacy of the pricing mechanism followed.

Grading:- Grading of farm produce was not a popular practice among farmers and dealers of the area. No farmer or dealer graded any product except one farmer who graded Lobia on the basis of color and size of grain. The main reason for not grading was that only one variety of each crop was cultivated in that area which had similar characteristics with respect to grain size and color in various hinterland areas.

The only thing considered in pricing was weight loss and price discount on quality. (Table 6.6)

Table 6.6: Grading Practices

Dealer Size	FARMER GRADING			DEALER GRADING		
	Yes	No	Total	Yes	No	Total
Small	-	8 (100)	8 (100)	-	8 (100)	8 (100)
Large	1 (11.1)	8 (88.9)	9 (100)	-	9 (100)	9 (100)
TOTAL	1 (5.9)	16 (94.1)	17 (100)	-	17 (100)	17 (100)

Figures in parentheses indicate percentage of respondents.

Storage Arrangements:- Two major types of storage/shop arrangements were reported, namely, combined, and separate shops/godowns. Of the sample dealers, about 77 per cent (consisting of almost equal number of small and large dealers) had combined shops and godowns, while the remaining had separate stores and shops. Although the ownership of shops/godowns exhibited a similar distribution pattern for large and small dealer categories, yet the proportion of dealers having rented-in shops/godowns was higher in the case of small dealers. The probable

reason for rented-in storage/shop arrangements could be the seasonal nature of business of most of the dealers. Renting-in of shops/godowns was generally confined to the period when the dealers were active in farm products business. (Table 6.7)

Table 6.7: Storage Arrangements

Dealer Size	SHOP AND GODOWN COMBINED			STORAGE-OWN AND RENTED-IN		
	Yes	No	Total	Own Storage	Rented-in Storage	Total
Small	6 (75.0)	2 (25.0)	8 (100)	1 (12.5)	7 (87.5)	8 (100)
Large	7 (77.8)	2 (22.2)	9 (100)	2 (22.2)	7 (77.8)	9 (100)
TOTAL	13 (76.5)	4 (23.5)	17 (100)	3 (17.7)	14 (82.3)	17 (100)

Figures in parentheses show percentage of respondents.

Storage Capacity and Storage Period:-

Storage capacity varied with dealership size. As may be seen from the table a larger proportion of small dealers (62.5 per cent) had storage capacity upto 80 maunds, while large dealers had a capacity ranging between 40 maunds to 121 maunds and above. Commensurate with the volume of commodities handled. On the whole, all dealer size categories were almost equally distributed in various capacity ranges shown in the table 6.8 below:

Table 6.8(a): Storage Capacity by Dealer Size

Dealer Size	STORAGE CAPACITY (BAGS)*					PERIOD OF STORAGE (DAYS)				
	10-40	41-80	81-120	120 and Above	Total	1-15	16-30	31-45	46-60	Total
Small	3 (37.5)	2 (25.0)	2 (25.0)	1 (12.5)	8 (100)	3 (37.5)	1 (12.5)	3 (37.5)	1 (12.5)	8 (100)
Large	1 (11.1)	2 (22.2)	2 (22.2)	4 (44.5)	9 (100)	5 (55.6)	1 (11.1)	2 (22.2)	1 (11.1)	9 (100)
TOTAL	4 (23.5)	4 (23.5)	4 (23.5)	5 (29.5)	17 (100)	8 (47.0)	2 (11.8)	5 (29.4)	2 (11.8)	17 (100)

\* All house type arrangements.

Figures in parentheses indicate percentage of respondents.

Monthly Rent:- As said earlier, about 18 per cent dealers had their own storage arrangements and hence paid no rent. Among the rest of the dealers, a relatively larger proportion of dealers fell in the rent category of Rs. 1-20/- (29 per cent) and 41-60/- (24 per cent). The amount of rent varied with the location and capacity of shops and godowns.

Table 6.8(b): Shop/Storage Rent per Month

Dealer Size	<u>Rent Range/Month</u>					Total
	Zero(or) Own Storage	1-20	21-40	41-60	61-80	
Small	1 (12.5)	4 (50.0)	1 (12.5)	2 (25.0)	-	8 (100)
Large	2 (22.2)	1 (11.2)	2 (22.2)	2 (22.2)	2 (22.2)	9 (100)
TOTAL	3 (17.7)	5 (29.4)	3 (17.7)	4 (23.5)	2 (11.7)	17 (100)

Figures in parentheses indicate percentage of respondents paying the rent in a particular rent category.

Improvement in Storage Programme:-

The dealers were asked to express their views about the type of improvement they preferred in the existing storage arrangements.

Almost all small and large dealers either suggested the provision of storage by the Government (47 per cent) or Government financial help to construct storage arrangements (41 per cent).

Table 6.8(c).

Table 6.8(c): Improvements in Storage Programme

Dealer Size	Help Suggested				Capacity Suggested			
	Govt. should Provide Pacca Storage	Govt. should Finance for Pacca Storage	No-Sugg-estion	Total	Storage Capacity Suggested	No-Sugg-estion	Total	
					20'X25'	30'X40'		
Small	3 (37.5)	4 (50.0)	1 (12.5)	8 (100)	1 (12.5)	1 (12.5)	6 (75.0)	8 (100)
Large	5 (55.6)	3 (33.3)	1 (11.1)	9 (100)	1 (11.1)	2 (22.2)	6 (66.7)	9 (100)
TOTAL	8 (47.0)	7 (41.2)	2 (11.8)	17 (100)	2 (11.8)	3 (17.6)	12 (70.6)	17 (100)

Figures in parentheses indicate percentage of respondents.

Credit:-

The discussion in this section is focussed on two major activities of dealers relating to credit:

- (a) Advancing credit to their farmer clients, and
- (b) Credit utilization themselves to finance their farm product business.

Dealer Credit to Farmers:- As may be seen from table 6.9 about 47 per cent of the dealers provided credit to farmers, while the others did not. Of those that extended credit, 67 per cent indicated farmers' domestic needs as the major purpose for which the credit was advanced by the dealers. About one third of the respondents extended credit for agricultural purposes. This credit use pattern reflects that use of farm credit did not occupy a prominent degree of importance in farm families' domestic and farming financial plans.

Table 6.9: Dealer Credit Advancing to Farmers

Dealer Size	Dealer Credit to Farmers					
	Yes	No	Total	Domestic Purposes	Agricultural Purpose (for Seed & Ferti.)	Total*
Small	1 (12.5)	7 (87.5)	8 (100)	1 (50)	1 (50)	2 (100)
Large	7 (77.8)	2 (22.2)	9 (100)	7 (70)	3 (30)	10 (100)
TOTAL	8 (47.1)	9 (52.9)	17 (100)	8 (66.7)	4 (33.3)	12 (100)

Figures in parentheses indicate percentage of respondents.

\* Eight dealers extended 12 loans.

The table further shows that credit advancing activity was related to dealership size, the dealers extending credit to farmers belonged mainly to the large category who had economically viable business enterprises and could afford lending for some period.

Conditions for Re-Payment:- As may be seen from the table given below, all the 8 sample dealers advancing credit to farmers mentioned no charges on, and no conditions for re-payment of the loan advanced to the farmers. However, one farmer reported that dealers advanced credit to farmers with the mutual understanding that the farmers would channel their farm products through them. This arrangement was considered sufficient to compensate the dealers for the amounts loaned out to the farmers for a certain period through the margin the dealers were able to secure on crop sale. (Table 6.10)

Table 6.10: Loan Re-Payment

Dealer Size	Charges for Credit to Farmers			Conditions for Repayment			Effect of Credit on Farmer Prices		
	Yes	No	Total	No Con- dition	Crop Sales through the Dealer	Total	Yes	No	Total
Small	-	1 (100)	1 (100)	1 (50)	1 (50)	2 (100)	-	1 (100)	1 (100)
Large	-	7 (100)	7 (100)	7 (100)	-	7 (100)	-	7 (100)	7 (100)
TOTAL	-	8 (100)	8 (100)	8 (88.9)	1 (11.1)	9 (100)	-	8 (100)	8 (100)

Figures in parentheses give percentage of respondents.

As the above table indicates, dealers mentioned no effect on price formation of the loan given to farmers without any charges or conditions attaching to it. This was obviously so because the margin obtained on farm produce sold to them was considered enough, and the dealers did not want to depress further the farm prices by such activity and lose their hold on their clientele

Credit Utilization by Dealers:-

The table 6.11 indicates that all sample dealers were using credit to finance their business and meet other needs. However, they solely depended on non-institutional sources. No dealer banked on institutional sources to meet their business credit requirements. The amount of credit utilized was related to dealership size. Large dealers used 61 per cent of total credit amount used by all dealers while 39 per cent was utilized by small dealers. The major source of credit was friends (57 per cent), followed by relatives (32 per cent). The dealers

reported using more than one source of non-institutional credit (Table 6.11 a).

Table 6.11(a): Dealer Credit Use

Dealer Size	Sample Size	Non-Institutional Credit 1/		Dealers' Percentage Share in Total	Sources				Total*
		Total Amount	Average Amount		Far-mers	Fri-ends	Rela-tives	Karyana Merchant	
Small	8	87750	10968.8	38.8	-	7 (63.6)	3 (27.3)	1 (9)	11 (100)
Large	9	138500	15383.9	61.2	2 (11.8)	9 (52.9)	6 (35.3)	-	17 (100)
TOTAL	17	226250	26357.6	100.0	2 (7.1)	16 (57.1)	9 (32.2)	1 (3.6)	28 (100)

Figures in parentheses show percentage of respondents.

1/ One respondent paid interest to non-institutional source @ 2.5 per cent

\* Multiple responses.

All credit was reported to have been utilized free of interest on mutual trust/personal surety, except one dealer who reported paying 2.5 per cent interest to a non-institutional source. All dealers utilized credit to finance their business, except one dealer who also used it also for home consumption purposes.

The use of non-institutional sources of credit implies that the dealers did not have access to institutional credit sources due to complexities of loaning

procedure, and high interest rate. Furthermore, as the nature of their business was mainly seasonal, the village dealers could not provide the security of commodities handled. This emphasizes the need for simplifying and streamlining the credit programme under seasonal business conditions to enhance credit use and to increase the economic viability of the business units.

To test the relationship between dealership size and credit utilization, coefficient of correlation was computed. The relationship was found significant at 0.05 confidence level with 'r' value of 0.585 and 't' value of 2.80.

Improvements Suggested in Credit Program:-

59 per cent of the dealers mentioned that they were not able to get the required amount of credit when needed, either from institutional or the non-institutional sources. The major reason for non-availability of credit from non-institutional sources was that they were not financially so liquid as to allow the required credit flow as and when needed by them. Whereas, institutional credit was difficult to obtain due to cumbersome loaning procedure.

Table 6.11(b): Credit Improvements Suggested

Dealer Size	All Required Credit Got			Improvements Needed in the Credit System				
	Yes	No	Total	Non-Institutional Sources be Strengthened	No Suggestion	Loan Without Interest	Bank Product Simplified	Total
Small	4 (50.0)	4 (50.0)	8 (100)	4 (40)	3 (30)	5 (50)	2 (20)	10 (100)
Large	3 (33.3)	6 (66.7)	9 (100)	6 (60)	1 (9.1)	8 (72.7)	2 (18.2)	11 (100)
TOTAL	7 (41.2)	10 (58.8)	17 (100)	10 (100)	4 (19.1)	13 (61.9)	4 (19.0)	21 (100)

Figures in parentheses show percentage of responses.

According to the dealer perception of credit problems, interest free loaning was the major suggestion for improving the institutional credit programme mentioned by 62 per cent of the dealers, followed by 19 per cent of the dealers suggesting simplification of loaning procedure and credit terms. An equal number offered no suggestions.

General Problems of Dealers:-

On the whole, lack of funds/business capital emerged as the major dealer problem mentioned by about 42 per cent, followed by lack of 'pacca' storage mentioned by 25 per cent of the dealers. Other problem

of high magnitude was the govt. ban on interdistrict commodity shipments.

On a dealer size basis, shortage of business capital, and the lack of 'pacca' storage were the two major problems of small dealers. Capital shortage and the ban on interdistrict commodity movement were the major problems affecting the business activities of large dealers (Table 6.12).

Table 6.12: General Problems of Dealers-NWFP

Dealer Size	Kacha Road	Govt. Ban to Shift Commodities	Lack of Pucca Storage & Less Capacity	Capital Shortage	Others*	Total
Small	-	1 (10)	4 (40)	5 (50)	-	10 (100)
Large	2 (14.3)	3 (21.4)	2 (14.3)	5 (35.7)	2 (14.3)	14 (100)
TOTAL	2 (8.3)	4 (16.7)	6 (25)	10 (41.7)	2 (8.3)	24 (100)

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 Figures in parentheses show percentage of responses.

\* Landlord does not bear building repair cost, electricity not available.

## C H A P T E R - V I I

### S U M M A R Y   A N D   R E C O M M E N D A T I O N S

#### Summary of Main Findings:-

Sample Size:- The field work for this 'Barani' Marketing Study was conducted in 1978 in two markets, namely, Chakwal and Dhudial in the Punjab province and one market, namely, Mansehra, in NWFP under a contractual research project. The primary objective of this study was to examine the existing marketing system of farm products and farm inputs, specially focussing on the marketing channels, marketing costs, farm/market prices structure, net prices available to farmers, dealer/farmer problems and feasible measures to improve marketing situation in order to induce more production.

The study covered marketing of major 'Barani' area crops like wheat, gram, groundnut, maize and pulses, and farm inputs like fertilizer, HYV seed, pesticides, and small tools/implements.

Data on various aspects of marketing of farm products and farm inputs referred to above

were generated by interviewing 200 farmers located in 20 villages and 32 dealers of two markets in the rainfed Punjab. In NWFP, 35 farmers and 18 dealers located in 22 villages were interviewed for this purpose. The sample was mainly drawn through random sampling technique.

Characteristics of 'Barani' Markets:-

The markets studied in both the provinces exhibited the characteristics of a traditional centralized marketing system. The markets of Punjab province were fairly competitive, organized and regulated under the Agricultural Produce Market Act, 1939. Whereas, the NWFP market (Mansehra) was not as competitive as the Punjab Markets, as it was dominated by a single large dealer. The market was also neither located in an organized premise nor was it regulated under the Market Act.

The network of market intermediaries involved in the marketing of farm produce consisted of village shopkeeper/village 'beḍpari' at the village level, 'kacha' arhtia (commission agent) and 'kacha + pacca' arhtia or wholesaler at the market level.

The farm products business in the Punjab markets was, however, carried out mainly by commission agents/wholesalers alongwith a relatively smaller number of itinerant village level dealers. Whereas, major portion of marketable produce in NWFP was handled by village shopkeepers/'beoparies' and ultimately channeled through one large dealer located at Mansehra market. The majority of the dealers of Punjab and NWFP markets had farming as ancestral profession and were handling more business compared to the dealers coming from non-farming families. A vast majority of the sample dealers in both provinces were running their business in rented-in shops and also had acquired most of the storage capacity on rental basis.

### Punjab

Characteristics of 'Barani' Farmers:- Of the total sample villages, fifteen were located on 'kacha' and 'pacca' roads while five of these were connected by completely 'pacca' roads.

The average cultivated area was about 9 acres on small farms and 35 acres on large farms.

The proportion of cultivated land to the total farm area was 94 per cent and 75 per cent on small and large farms respectively indicating lower land use intensity on the large farms. The cropping intensity on small farms was 120 per cent compared to about 84 per cent on the large farms. The cropping pattern was fairly diversified, with groundnut, gram and 'kharif' pulses (mash, mong) being the major crops.

Factors Limiting Crop Production:-

Of the several factors inhibiting further increase in crop production, lack of irrigation water and uncertain rainfall were the two most prominent factors mentioned by a large percentage of sample farmers. Shortage of water for raising forage crops was also mentioned as a major constraint for further expansion in the livestock activity. Losses of poultry birds due to disease attack was the major factor that majority of the sample farmers considered as a major deterrent to poultry production.

Farm Inputs:- Use of modern inputs was very limited and only 53 per cent of the respondents used some quantity of urea and DAP on part of their

cropped acreage. Surprisingly, percentage of users was high among small farmers. Purchases were mainly with their own funds. None of the sample farmers reported the purchase of pesticides, improved seed or implements.

Marketable Surplus:- Groundnut and pulses (mash, mong) during 'kharif' and wheat, gram/'rabi' pulses during 'rabi' were the major crops marketed by sample farmers. Almost all sample growers marketed, on an average, 25 and 18 maunds of surplus produce of groundnut and gram respectively. The average quantity of marketable surplus of wheat, and 'rabi' pulses per farm household was about 42 and 7 maunds respectively\*. Marketable surplus of wheat was, however, available with only 40 per cent farmers, (mostly of large size) whereas, 21 per cent of the sample farmers reported that more than 3/4th of their total production of 'kharif' pulses was over and above their household requirements and was thus disposed of in the market. The amount of marketable surplus of major crops was found positively correlated with the farm size.

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\* Average figures based on the households reporting some marketable surplus.

Most of the farm families were living in joint family system and thus had considerably large family size comprising, on average, about 7 members. Wheat was the basic cereal food of the sample households. The sample families were not, however, self-sufficient in wheat production, and most of them purchased wheat, the average purchases being about 4 maunds per household during the course of a normal year.

Regarding payments-in-kind 'barani' farmers paid on an average, 6 maunds of wheat, and 4.2 maunds of groundnut to the village artisans and other agricultural labour employed for rendering various services to them.

Farm Household Income:- Family income sources comprised crop and livestock activities, off-farm work and remittances of the family members working elsewhere. The share of farm and non-farm sources to the total farm income was about 51 per cent and 49 per cent respectively. Within the farm sources the contribution of crop activity was about 64 per cent compared to 36 per cent contribution of the livestock activity. Average monthly remittances per migrant

family member came to Rs. 49/- while off-farm earnings of the farmer himself were reported to be Rs. 40 during the year under study.

### Marketing Activities of Farmers (Punjab)

Marketing Calendar:- Disposal pattern varied for various farm products. In the case of groundnut, 45 per cent of the marketable surplus was disposed of immediately after harvest at prices ranging between Rs. 80 and 185; Whereas, the remaining portion was sold in the post harvest months at almost comparable prices. The sale of major part of the marketable surplus of 'kharif' pulses was carried out during the post harvest months.

Major portion (52 per cent) of the marketable surplus of wheat was sold during off-season months and the balance during the harvest and immediate post harvest season coinciding with the harvest of maize crop or the next wheat crop. The major sales of gram surplus were carried out during the post harvest months and the balance at harvest periods.

Regarding price structure during various sale periods, a sizeable price spread of between Rs. 14/- to 25/- per maund was recorded between the harvest and the

off-season periods in the case of gram. In the case of wheat crop, a difference of Rs. 10/- in harvest and post harvest prices was observed. The sales at the harvest time were found inversely correlated with the farm size.

Marketing Channels/Place of Sale:- Commission agent was the major functionary handling 70 and 85 per cent of gram and groundnut respectively, followed by village 'beoparies' and retailers. Chakwal market was drawing major part of the surpluses from the surrounding villages and only limited business was flowing into the Dhudial market, as majority of the sample farmers were patronizing Chakwal market. A very small number of the sample farmers were selling in Dhudial market. Very little grading of the marketed produce was done at the farm level.

Factors Influencing Choice of a Market/Buyer:-

While selecting a market and a buyer for sale of marketable produce, competitiveness of the market place and the personal relationship with the dealers were the major considerations kept in view by the sample farmers.

Transport and Other Costs:- Of the respondents selling marketable surplus in the grain markets, 93 per cent used hired means. Bus among vehicular modes and camel among pack animals turned out to be the predominant modes. However, transport cost was more favourable for suzuki van and donkey among various modes with average transport cost per maund being Rs. 1.50 and 1.2 respectively.

The marketing expenses like octori, handling charges, market fee, commission and deductions by the dealers worked out to Rs. 4/- in the case of groundnut, and Rs. 3/- per maund in the case of other crops in Chakwal market, and Rs. 4/- per maund for all crops in Dhudial market. These marketing expenses were in addition to the personal expenses of the farmer on items like transport and food.

Trade Malpractices:- The sample farmers reported illegal deductions and price collusion as the major imperfections in the existing marketing arrangements and the functioning of the markets at Chakwal and Dhudial. A small percentage of the respondents complained that underweighment was also being practiced

by some of the market functionaries. Complaints about low prices were also made by this group of farmers.

These respondents expressed the view that training in new weights and measures introduced under the metric system and supervision of market transactions by the market committee would improve the situation. Most of the farmers located away from the market towns suggested opening up of service outlets in closer vicinity with facilities for marketing of farm produce, machinery repairs and P.O.L. supplies.

Market Information:- The chief sources of market information were the fellow farmers and personal contact with the commission agents. A small percentage of farmers reported the use of formal sources of market information like radio, newspaper or extension agent. The information supplied by the informal sources was reported to be timely and reliable. Suggestion was, however, made by some of them that mass media should give full coverage to major 'kharani' crops, and that effective price support coverage be extended to the crops produced in 'barani' areas.

Farm Storage:- Mud bins and or/separate 'kacha/pacca' rooms were the major storage arrangements at the farm level. Mud bins were used by 74 per cent of small farmers that were meeting only 45 per cent of their total storage requirements. Separate 'kacha'/pacca' rooms though used by a small number of farmers were accounting for the largest share in the total storage space at the farm level.

Farmers seemed to have little perception of and concern about storage losses. Only about four per cent losses were reported in the case of wheat and 4 to 10 per cent in the case of groundnut. As such majority of them did not make any suggestion regarding improvement in storage arrangements. Some of the small farmers, who did not have 'pacca' rooms of their own, wanted that such a storage facility be provided to them.

Credit:- Credit use in 'barani' areas was also negligible, as only 14 per cent of the sample farmers reported to have taken altogether 27 loans consisting of 68 per cent from institutional and 32 per cent from the non-institutional sources.

The institutional loans were taken by 78 per cent of the large and 28 per cent of the small farmers. Small borrowers used these loans for domestic purposes; whereas the large farmers utilized the borrowed funds for agricultural purposes. Low use of credit was probably due to availability of additional funds through remittances, difficult access to and availability of institutional credit.

Marketing Practices of Dealers (Punjab):-

Majority of dealers were handling four or more than four commodities. None of the large size dealers, however, handled less than two commodities. The major commodities handled were groundnut and gram, followed by mash, guara and wheat. No dealer, however, dealt with farm inputs.

On the total business volume, 'kharif' business constituted about 70 per cent. Groundnut during 'kharif' and gram during 'rabi' contributed the largest share towards total business volume. Small dealers handled respectively 16 and 30 per cent of the total business, while large dealers were controlling the rest of the business volume. The business was conducted in two ways: (a) on commission

basis, and (b) on dealer's own account. Commission business, conducted both by the small and large dealers, formed the major portion of total business during peak (harvest and post-harvest) and slack (off-season) periods.

Marketing Calendar:- Marketing activity was seasonal and pegged to major portion of commodities purchased and disposed during peak period of business. Expectation regarding fluctuations in commodity prices influenced dealer's decision for selling or storing farm produce.

Market Prices:- Chakwal market being more organized offered higher prices than Dhudial market, which showed an average inter-market price differential of Rs. 20/- on various transactions of groundnut during peak period. The differential during slack period was even larger.

Price formation between dealers and farmers took place through open auction, use of a chit or individual agreement. Open auction and individual agreement were the methods of price formation between the dealers.

Dealers collected price information from regional markets through telephone, followed by quotations reported in the 'Daily Business' newspaper.

Business Costs:- On an average, Rs. 512/- were spent monthly by dealers to run their farm products business. Entertainment followed by shop and godown rent were the major cost components. The costs were related to dealership size.

On an average, Rs. 8/- were passed on by dealers to farmers as marketing charges on each transaction. Loss in weight (wattah) and commission were the major components of such charges. The net price received by the farmer in such cases was about Rs. 92/- per maund (given sale price of Rs. 100/- per maund) minus his (farmer's) personal expenses on food and transport/octori.

Grading:- Very little grading was also being practiced at the dealer level. Only groundnut was crudely graded by some dealers on the basis of colour and size of pod.

Storage capacity was related to dealer size. All dealers were having either owned or rented-in storage capacity. The dealers also did not show much concern about storage losses.

Credit:- Majority (84 per cent) of dealers extended interest free credit to farmers mainly for domestic needs. No interest, either explicit or implicit was being charged to the farmers. This facility was mainly used to attract business and to have ensured clientele.

Only 47 per cent dealers used credit themselves to finance their business, of which 87 per cent from institutional sources. Credit use was related to dealership size. Property and stock pledging were the two major collateral arrangements accepted by the banks.

The major dealer problems were related to the provision of credit on easy terms, low interest rate and according to their requirements. Lack of proper facilities at the market premises was another problem expressed by some of the dealers.

N. W. F. P.

'Barani' Farmers:-

The average farm size with sample farmers was about 8 acres in the case of small and 43 acres in the case of large farmers. The cultivated land percentage was higher with the small farmers compared to large, indicating lower land use intensity on the latter category farms. Cropping pattern on sample farms was quite diversified, like that of Punjab, but the range of cropping activity was relatively narrower due to agro-climatic reasons. Maize during 'kharif' and oilseeds/wheat during 'rabi' were the major crops of the rainfed areas in Mansehra Tehsil with an average production of about 140 and 51 maunds on sample farms. Cropping intensity on small farms was close to 93 per cent compared to only 70 per cent in the case of large farms.

Factors Limiting Production:- Non-availability of pure seed, high prices and black marketing of fertilizer were the two major constraints limiting crop production according to the majority (56 per cent) of the sample farmers. Shortage of irrigation water/uncertain rainfall was another major constraint in crop productivity improvement in this area.

Regarding plans to increase production, the majority of small farmers (about 60 per cent) were equally interested in increasing maize and wheat production by increasing area under these crops, while a small percentage planned to increase the production of these crops with the use of modern inputs. The chief reason for increasing production was to raise additional resources for meeting the families financial needs followed by purchase of farm inputs.

Farm Inputs:- Fertilizer was the major farm input used by sample farmers. The majority of them purchased it from the village shopkeeper and paid up to Rs. 16 or above the official price for various types of fertilizers purchased from different dealers at different times. Fertilizer was mainly transported by Suzuki van from larger distances, and by donkey from shorter distances.

Marketable Surpluses:- Maize and wheat were the two major crops generating marketable surplus. The average marketable surplus of maize was about 43 maunds and that of wheat about 23 maunds per household.

The average family size in the NWFP came to 16 members. Non-family members like Dehkans, servants and family relatives also formed an important part of the farm households which was a major factor inflating the family size. Maize grain was the chief food item followed by wheat. All sample families on an average purchased about 25 maunds of wheat during the year to supplement their home grown maize supplies. The average consumption of maize and wheat was found positively related to family size; larger amount being consumed by large families.

The farm families engaged Dehkans and artisans for the accomplishment of various farming operations who were mainly paid in-kind, the usual share being 1/4th of total produce in each season. Payment to artisans was made mainly from 'kharif' produce, the average payments being 13 maunds per farm household.

Farm Household Income:- Field crops and livestock products were the chief sources of income of sample 'barani' farm families. Field crops contribution to the total household income was 54 per cent on small farms and 37 per cent on large farms. On the other

hand, livestock contribution to the family income was more than 45 per cent on small farms and 16 per cent on large farms. Among the non-farm sources, pension receipts and earnings from retail business provided the largest share (80 per cent) for small farmers while remittances from family members was a chief source of income (96 per cent) for large farmers. No large farmer was personally engaged in off-farm work. On the whole, non-farm sources of income contributed the largest share (63 per cent) of income for both the farm categories. Monthly off-farm income of self-employed small farmers was Rs. 29/- while monthly remittances per family of large farmers was Rs. 1684/-.

Sale Timings/Channels:- Maize sales were almost equally distributed over three distinct sale periods. However, major portion of wheat and other 'rabi crops was sold during post harvest months.

Majority (80 per cent) of the sample farmers sold the produce in the village to the village 'beopari' due to difficult access to the market town or primary markets.

Due to peculiar road condition, donkey emerged as the important mode of transport among pack animals, while Suzuki van among vehicular modes. About 70 per cent of the farmers selling produce in market town or village primary markets used hired means of transport. The transport cost by donkey varied between Rs. 0.45 and 1.20 per maund for various distances, while it was Rs. 1/- per maund for vehicular modes.

Price Information:- Village 'beopari' was the chief source of farmer price information followed by fellow farmers and personal visit to the market. Fewer farmers made use of formal sources of information.

Storage:- Two main types of storage arrangements were reported. Small farmers used mainly 'kahca ambar', while large farmers had 'pacca ambar' with a capacity of more than 150 maunds. The storage arrangements were reported to be adequate.

Credit:- Credit use was highly limited as only 23 per cent of the sample farmers borrowed funds. Only large farmers used credit from institutional sources on 13 per cent interest rate against tangible secu-

rity, while small farmers obtained credit only from informal sources on mutual confidence and reciprocal basis. The credit was either used for farm inputs or domestic needs. The majority of large farmers used major portion of credit for purchasing farm inputs, while the small farmers used the loan amount to meet the domestic needs due to their weak financial position.

Marketing Practices of Dealers:- Due to the diversified nature of business, majority of dealers were handling four or more than four commodities. The village dealers were also handling non-agricultural goods to supplement their income from farm products' business.

About 79 per cent of the total business volume consisted of 'kharif' crops, namely maize and the remaining from 'rabi' crops, mainly oilseeds (sarson). About 85 per cent of the business of the small dealers and 78 per cent of large dealers was during 'kharif' season, while the balance was during 'rabi' season. About 74 per cent of the business volume of each commodity was handled during its

peak arrival months, and the rest during the off-season months. Most of the business was in the hands of the large dealers.

Market Prices:- The price differential for various sales/purchases during peak months was lesser compared to period of slack trade in the case of maize crop. Margin in sales/purchases of sarson showed larger differential than maize crop. Similarly, in the case of wheat a margin of Rs. 1 to 5 per maund was observed.

Marketing Calendar:- Most of the purchases were made during the peak period according to the availability of marketable surplus with the farmers. The major functionary in the marketing channel was the village 'beopari'. The whole system, however, consisted of a large network of intermediaries which influenced the margin between the producer and the consumer.

Business Costs:- The average monthly business cost of all dealers came to Rs. 157/-, the major portion of which consisted of expenditure on account of entertainment and shop/godown rent. The large dealers employed staff to assist them which formed 15 per cent of their total business cost.

Marketing Charges Passed on to Farmers:- On an average, about Rs. 3/- per maund were passed on to farmers by the dealers. Loss in weight (wattah) due to moisture/mixture, transport charges and quality discount were important charges passed on to farmers through pricing mechanism.

Pricing:- Price formation between the village dealers and farmers was taking place with reference to the prices set by the large buyer operating in Mansehra market. The usual margin between prices received by the farmers from the village dealers and that of Mansehra market ranged between Rs. 3/- and 5/- per maund. The dealers and farmers, however, expressed satisfaction over the nature, reliability and adequacy of the pricing mechanism.

Grading:- Grading of crops was non-existent with dealers as well as farmers in Mansehra Tehsil as mainly single varieties of various crops were reported being grown in this area.

Storage:- Majority (82 per cent) dealers had rented-in-storage due to seasonality of their business. The shops and godowns were combined in most cases.

The average storage with majority of small dealers (62.5) was upto 80 maunds.

Almost all dealers suggested provision of storage by government or financial help to construct required storage capacity.

Credit:- About 47 per cent of the dealers, mainly large size, provided credit to farmers, mainly for domestic needs, while about 1/3rd of credit was given for agricultural purposes. The loans provided neither had any conditions of repayment attached nor any interest charges, explicit or implicit.

Dealer Credit Use:- All sample dealers depended on non-institutional sources for meeting their credit needs. Large portion (61 per cent) of loan amount was utilized by large dealers. The credit so obtained was on reciprocal basis free of any charges/ interest. Complicated bank loan procedure was the major difficulty forcing dealers to use non-institutional credit. The dealers, therefore, suggested providing of ample institutional credit facilities under simplified procedure and preferably on interest free basis in order to enhance credit use.

Recommendations:-

The recommendations presented below refer to both the study areas as a great similiarity was observed in production and marketing activities of the sample respondents. The recommendations are discussed with relevance to findings obtained about three major areas that formed the subject of the study (a) Production activities, (b) Marketing facilities, and (c) General problems of the respondents.

Production Activities:

Land Use Intensity:- The findings that large farmers' land use and cropping intensity was low compared to small farmers emphasizes the need for its improvement and to make it, at least, comparable with that of the small farmers. This can help increase the cultivable and cropped acreage by 19 and 36 per cent in 'barani' Punjab, and 11 and 23 per cent in NWFP 'barani' areas respectively on the basis of findings of this sample study. This increase can significantly improve the size of the marketable surplus, particularly that of groundnut, gram and maize.

Production Technology:- Transfer of production technology should be field specific, so that factors like soil erosion and contouring are taken into account and the less risky spots for introduction of new technology are properly identified. For instance, the higher rainfall areas are the logical locations to introduce chemical fertilizer, as there is more certainty of beneficial and consistent results that are likely to have lasting effects on the attitude of farmers. Adoption of fertilizer technology and other modern farm inputs can then gradually be popularised in the low rainfall area.

Referring to NWFP sample area specifically, the rainfall fields were found interspersed with irrigated fields where a quite diversified cropping activity was being undertaken. Growers were diverting large acreage towards the production of fruit and vegetables. Supply of nursery and seedlings, pesticides, and inadequate marketing facilities are the major constraints faced by farmers in large scale production of fruits and vegetables.

For the development of farm economy in this region the "intensive area approach" seems to be most suitable.

If farmers are assisted by the agricultural extension agents in the selection of proper fields and in following cultural practices specific to the nature of different fields, more production can be obtained.

Supply of Inputs:- Supply of inputs like fertilizer within easy access and on time is needed to make farming more attractive to the farmers in 'barani' areas. Fertilizer use can be improved by opening new outlets in the villages and rectifying the problems of underweight and poor quality as suggested by a majority of respondents. The farmers demand for opening of services outlets near their villages can only be met, without putting extra burden on the public exchequer, by arranging distribution of inputs through village cooperatives, shopkeepers or agri. extension workers. In case the distribution is put under the charge of field assistant, both the supply position and the technical know-how of the farmers regarding this key input is likely to improve.

Development of new high yielding seeds of main 'barani' crops also needs proper attention as no meaningful break through has so far been achieved

in this area. Breeding programmes, therefore, need to be strengthened. Effective extension service is needed to create high degree of confidence among farmers regarding new varieties of seed and fertilizers.

Development of new irrigation facilities, and soil conservation practices would be of great help in solving the problems faced by the farmers in improving crop and livestock productivity. Veterinary care could further promote poultry farming and livestock production.

Marketing Facilities:

Development of New Markets:- The study revealed that no regulated/organized market existed in NWFP sample area and also that the submarket in the Punjab was not properly organized, which caused problems for marketing of the farm produce. This emphasizes the need for establishing new outlets/markets and improving the functioning of the existing ones to provide competitive markets with a conduct and performance more to the advantage of the farmers. The role of Market Committee is limited and of lesser benefit to the growers in the Punjab as the Agricultural Produce Market Act has not been enforced

properly. In the North West Frontier Province sample area the Market Committees are almost non-existent. These committees need to be established giving full representation to the growers so that the mechanism of price formation and other market practices could effectively be improved.

Similarly, no well organized livestock market was available in the study areas for the disposal of livestock. As livestock production is an important activity in 'barani' areas, establishment of livestock markets on scientific lines also needs special priority in the development programmes.

Village 'beopari' has been identified as an important functionary in the commodity marketing channels in NWFP. Furthermore, the amount of market charges passed on to the farmers by the dealers of the Punjab's sample markets plus farmers' personal expenses incurred for sale of commodities in the market shows that farmer prices are depressed more than the village level prices offered by the village dealers. Although the farmers get better prices in the market place than the ones offered by village dealers, yet

the receipts, net of marketing margin, are lower in the latter case. Opening new outlets near villages or encouraging village dealer activity were the two major alternatives which could help narrow down the village and market level price margin, catch the margin fully or partially, by farmers now going to market functionaries and improve the performance of existing markets. Village level functionaries thus need to be made more viable to provide competitive alternate channel for farmers and encourage price competition. Provision of institutional credit to the village 'beoparies' for financing the commodity trade could be of great consequence.

The study also revealed that road condition in the sample areas needed lot of improvement. Difficult access to markets was also a factor influencing farmer's choice of alternate market channels, thus limiting his ability to sell his farm produce through competitive channels. This farmer problem could be alleviated by improving the road network in the rural areas.

Market Information:- Up-to-date and reliable market information should be disseminated quickly through

mass media in a language intelligible to the farmers giving full coverage to major commodities in order to apprise them of the market price situation and improve their bargaining position through information. Its timings should coincide with the marketing calendar of the farmers, as revealed by this study. The market committees could generate quality price information by observing market transactions and analysing supply and demand situation, and immediately disseminating through mass media.

Trade Malpractices:- The finding that sample farmers were facing several trade malpractices, particularly incorrect weightment of produce emphasized that the farmers' problem of trade malpractices could be minimized by their training about new weights and measures recently introduced under the metric system. Supervision by the Market Committee could also help reduce dealer malpractices on account of weightment, price collusion, and pricing practices. The farmers also need to be educated about the market charges/trade allowances prescribed under the Market Act so that dealer malpractice of charging market fee/other funds could be checked. The payment of market fee by farmers indicates their sheer lack of knowledge about market charges

as no farmer mentioned charging of market fee by the dealers as a malpractice.

Procurement Programmes:- Non-farm jobs are more paying these days due to unfavourable terms of trade for agriculture due to rising production costs. In order to ensure better prices to the growers, public sector procurement agencies should start more effectively participating in 'barani' areas. The procurement programmes should coincide with the sale schedule of the farmers of 'barani' areas, as revealed by this study. The procurement prices for major commodities like groundnut, gram and maize could be fixed at levels high enough above the prices reported by sample farmers as just prices covering their cost of production. This could maintain farmers' interest in farming and serve as an incentive for inducing more production.

Storage Programme:- The study revealed that farmers were not conscious about proper storage of farm produce and the storage losses. Farm level storage practices when examined in the context of low production volume and marketable surplus, demand improvement. This would require intensive education/training of the farmers in proper and scientific storage techniques. Extension

effort is also needed to encourage control of storage grain insects through chemical treatment.

Grading:- The finding that neither farmers nor the dealers were practicing grading emphasizes the need for education of farmers for introducing grading by demonstrating to them the advantages of scientific methods of cleaning, drying and grading their farm products before bringing to the markets. The Market Committees should ensure a premium price for the graded products. Further, official grades and standards also need to be established for major 'barani' crops and enforced through legislation so that farmers could be educated on that, because in the absence of official grades, no standardized grading techniques/practices could be followed.

Processing Plants:- To keep the producer-consumer margin in a favourable balance and to integrate production-processing/marketing, the processing plants for commodities like pulses, groundnut and maize should be established in the 'barani' producing areas. These processors should carry out extension, input supply (preferably on credit basis) and marketing activities

on the lines of tobacco and maize processing companies. Public subsidy may also be given to such ventures in the initial stages.

Off-Farm Work:- The level of adoption of new inputs and scientific agronomic practices is affected by the departure of educated and able bodied persons from the farm families for off-farm work. Consequently, the desired production level is not achieved. To retain these persons and to have their contribution to decision making regarding farming off-farm work opportunities such as processing plants for farm products and other small scale industries close to the farms should be arranged. Furthermore, as off-farm work contributed the largest share of gross income, this source needs to be strengthened by providing greater job opportunities to rural population as suggested earlier.

Credit:- In view of limited credit use the major suggestion for improving institutional credit supply was making it available under <sup>simplified</sup> ~~supplied~~ procedure and on subsidized interest rate. Further research is, however, needed to investigate the reasons for low use of credit by the farmers in the study areas as the

present study did not cover this aspect in thorough detail. The small farmers' financial requirements for farming and ways for helping them also need to be looked into properly. Alternate institutional financing arrangements may be tried in order to divert credit to productive uses.

(c) General Problems:- Dealer problem of financing their business and making it more viable also requires special attention by making credit more accessible to all classes of dealers through simplified procedure and better terms of lending.

Farmer problem regarding lack of irrigation water and unlevelled/fragmented land holdings also needs special consideration in order to keep their interest in farming. The arrangements could be : (a) construction of small dams to utilize excess water supply during rainy season. (b) Trial boring for helping farmers install tubewells wherever feasible according to the terrain, and quality of underground water, and (c) Planned programme for land levelling instead of levelling of certain spots in the whole tract. This would, however, require another study

to identify such areas.

Further Research Suggested:- The benchmark data generated through this study on various aspects of production and marketing patterns of respondents obtaining in sample 'barani' areas has helped to identify certain areas for further research.

Accordingly, further investigations are suggested regarding:

- a, The ways and means of improving the land use and cropping intensity at large farms, bringing it at least, at levels comparable to that of small farms.
- b, Feasibility of distribution of inputs like seed and fertilizer through village cooperative societies, village shopkeepers and/or agricultural extension workers.
- c, Establishing appropriate rural industries/processing plants in order to enhance opportunities for off-farm work near the villages and retain the productive labour force in farming.
- d, Devising appropriate farmer and dealer training programs about new weights and measures, storage practices and grading of farm produce.
- e, Extending credit facilities to village dealers by relaxing the lending terms to improve their functioning.
- f, Working out cost of production of major 'barani' crops for establishing attractive procurement price levels.
- g, Feasibility of improving irrigation facilities through the installation of tubewells by undertaking trial boring. Feasibility of lift irrigation and construction of small dams may also be looked into.

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G L O S S A R Y

Acre	A unit of land measurement equivalent to 0.405 hectares of land.
Ambar	A type of storage arrangement made of mud or bricks used in NWFP.
A.S.	Ammonium Sulphate.
Arhtia (Kacha)	A dealer trading in agriculture commodities mainly on commission basis.
Arhtia(Pacca)	A wholesale dealer trading in agricultural commodities in a grain market, mainly on his own account.
Barani	Rainfed area.
Beopari	A village trader engaged in purchasing crop produce in the village or an intermediary working on behalf of a commission agent/wholesaler.
Chaukidar	A village functionary responsible for night watch and reporting births, and deaths to nearby govt. office.
D.A.P.	Diammonium Phosphate.
Dehkan	A share cropper in NWFP, usually residing with the owner and cultivating farm land with the owner's farm resources. The usual Dehkan share in practice is $\frac{1}{4}$ th of produce in each season.
Desi	Indigenous.
Imam Masjid	A man, usually well versed in Quran and Sunnah who leads prayers in the local mosque and teaches the Holy Quran.
Kacha Road	Un-metalled dirt track usually used by village bullock carts, etc.
Kanal	$\frac{1}{8}$ th of an acre.
Karyana	Retail business.

Khadim	A man engaged by villagers to take care of village mosque.
Kharif	A crop season in Pakistan commencing from April to September in which cotton, sugarcane, maize, rice, millets are major crops.
Lobia	Beans, grows in 'kharif' season.
Mandi	A grain or livestock market.
Mash, Moong, Moth, Mothi	Pulses grown in 'kharif' season.
Masoor	Pulse grown in 'rabi' season.
Maund	A unit of weight in Pakistan about 1/28th of a Ton or = 37.32 Kilograms.
Merasi	A class of moeens in the village maintaining ancestral record of farmers and entertaining them on social ceremonies.
Munshi	A person employed by a dealer for maintaining business account and handling other related matters.
Numberdar	A village headman responsible for collection of land revenue and other taxes from farmers on behalf of Government and attending other village matters.
Pacca Road	Metalled (surfaced) road.
Rabi	A crop season in Pakistan from October to March in which wheat, gram, oilseeds, and lentil are the major crops.
Rehra	A two wheeled cart driven by a bullock or he-buffalo.
Rupee	A primary unit of currency used in Pakistan, equal to <u>\$ 0.10</u> .
Sarson	Rape seed.
Seer	A unit of weight used in Pakistan equal to 1/40th of a maund and 0.93 Kilogram.

Seyp	A system of in-kind payments made to village artisans for services provided to the farmers.
Tehsil	An administrative unit of a district in Punjab and NWFP Provinces.
Tonga	A two wheeled vehicle driven by a horse.
Ushar	An in-kind payment made to assist the poor, incapacitated needy persons of the society as a religious custom. The usual amount paid is one tenth of farm produce in 'barani' and 1/20th in irrigated areas.
'Watta'	Overweighment or deduction made by dealers from farmer's produce on account of moisture, mixture and low quality of produce.