A STUDY ON PRODUCTION AND MARKETING OF APPLE IN KALPA BLOCK OF DISTRICT KINNAUR, HIMACHAL PRADESH, INDIA

Project Report

by

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(H-2019-26-ABM)

submitted to

Dr. YASHWANT SINGH PARMAR UNIVERSITY
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partial fulfillment of the requirements for the degree

of

MASTER OF BUSINESS ADMINISTRATION

MBA (AGRIBUSINESS MANAGEMENT)

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CERTIFICATE-I

This is to certify that the project report titled, **"A Study on Production and Marketing of Apple in Kalpa Block of District Kinnaur, Himachal Pradesh, India"** submitted in partial fulfillment of the requirements for the award of the degree of Master of Business Administration in the discipline of Agribusiness Management of Dr. Yashwant Singh Parmar University of Horticulture and Forestry. (Nauni) Solan (HP) – 173 230 is a bonafide research work carried out by Mr. Sayed Modaser Hashimi (H-2019-26-ABM) son of Mr. Sayed Abdul Samad under my supervision and that no part of this project report has been submitted for any other degree or diploma.

The assistant and help received during the course of this investigation have been fully acknowledged.

Date:
Place:

(Dr. Krishan Kumar)
Project Advisor

CERTIFICATE-II

This is to certify that the project report titled **"A Study on Production and Marketing of Apple in Kalpa Block of District Kinnaur, Himachal Pradesh, India"** submitted by Mr. Sayed Modaser Hashimi (H-2019-26-ABM) son of Mr. Sayed Abdul Samad to the Dr. Yashwant Singh Parmar University of Horticulture and Forestry (Nauni) Solan (HP) – 173230 India in partial fulfillment of the requirements for the degree of Master of Business Administration in the discipline of **Agribusiness Management** has been approved by the Advisory Committee after an oral examination of the student in collaboration with and External Examiner.

_____ _____

(Dr. Krishan Kumar) ( )

Project Advisor External Examiner

Prof. & Head
Department of Business Management

Countersigned

Dean
College of Horticulture

ACKNOWLEDGMENT

I am indebted to The God- the Almighty who blessed me with all the favorable circumstances to go through this gigantic task and for be towing me an opportunity to be the pride student of "Dr. Y Parmar University of Horticulture and Forestry, Nauni- Solan (H.P) India." I thank Almighty for giving me such honest and sacrificial parent to whom I owe all that is mine.

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Place: Nauni, Solan
Date: **(Sayed Modaser Hashimi)**

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INTRODUCTION

India's three mountain states “Himachal Pradesh” Jammu & Kashmir and Uttarakhand, produce nearly all of the apples grown in the country. The domestic Indian apple market was valued at approximately Us$4.1billion in 2010 (Rosi,2010) Two apple varieties, Red Delicious and Golden Delicious are the dominant varieties grown and consumed in India. Indian consumers prefer apples that are red sweet. crunchy, and uniform in shape (Pandey *et al*, 2013). In 2009, India produced 1.98 million metric tons of apple on 274.4 thousand hectares (Indian Horticulture Database- 2010, 2010).In India the great majority of fresh produce is old through informal retailers, including roadside and neighborhood stall, kiosks, and doorstep delivery by hand carts. Organized fresh food retailing through supermarkets is still in the nascent stage and largely confined to a few big cities. In the current, supply -driven market, buyers face great variability of supply in term of quality, quantity. specifications, and yield. For this reason, most buyers, including food processors and retailers, do not know in advance what to expect from the supply lot (Minton *et al.*, 2009).

The state of Himachal Pradesh has emerged as a model for other hill states of the country. This has been possible because of the concerted efforts of the planner and people of the state to harness the varied agro-climatic conditions to transform the traditional hill agriculture to more remunerative horticultural crops dominated commercial agriculture. Apple cultivation in the temperate areas of the state has been at the centre of the horticultural development strategy. As a result, the area under apple increased substantially from a mere 400 hectare in 1950 to 11493 9 hectares in 2011-12. Apple acreage now account for more than80 percent of the total fruit area in the state. This is true for the share of apple in total fruit production as well.

In district Kinnaur, apple is a major cash crop leading to higher economic growth of the people. Apple in Kinnaur is grown at an altitude above 10.000 feet above mean sea level and harvesting begins when the crop from other district in the state is almost over. Kinnaur apple is known for its trademark.

The first apple orchard in Himachal Pradesh was established at Bandrole in Kullu by captain Lee an English man around 1860. Thereafter many orchards were established at Manali (Raison) and Nagar in Kullu valley by English settler like Col. Rannk, captain Bannan. Besides many apple varieties were introduced by Alexender Coult in his orchard called Hillock Head of Mashobra in October 1887 which is now known as the Regional Horticultural Research Station of Dr. Yashwant singh Parmar University of Horticulture and Forestry 'Nauni' Solan Himachal Pradesh. However, apple revolution in the state came with the introduction of delicious varieties by Samuel Eudans Stocks a resident of Philadelphia (USA) in 1918 at Kotgarh in Shimla district. Slowly and steadily this crop has become very important for improving the socio-economic conditions of the people of the state.

Ever since the introduction of the fruit in this hilly stale by the foreign missionaries there has been continuous increase in area and production of this fruit. At present more than dozens cultivars are being cultivated by the apple growers of Himachal Pradesh. The red colored delicious group varieties dominate the industry. The cultivars like Golden Delicious, Red Gold, Tydemans, Early Worcestor etc. Are planted as the pollinizing varieties for the main commercial delicious group and there are other minor varieties cultivated like Black Ben Devis, Jonathan. Ruspippin Cox·s, Organge Pippin, Starkrimson Delicious etc.

The Apple marketing system in H.P. is very often viewed as inefficient. The intermediaries in the marketing system, it is alleged make disproportionate profits at the expense of producer and the consumer. The central and state governments from time to time have brought legal reform in the Agricultural Produce Marketing Act to tackle the emerging problem in the marketing system. Recently Government of India has introduced Model Marketing Act envisaging reduction in the monopoly) of Agricultural Produce Markets (APMs) and permitting free movement of goods). Establishment of private markets and direct marketing. in pursuance of Govt. of India.

Model Marketing Act, various state Government have brought the legal reforms in the market laws with the aim to provide for the establishment of private markets contract farming, group marketing and direct marketing in agricultural commodities. The extent of adoption of the model act and it success is still to be studied. More empirical investigations are required to say something definitely about the improvements in the marketing system.

Need of Study

Kalpa Block of District Kinnaur in Himachal Pradesh has been known for its quality apple. However, apple production in Kalpa Block of the District is confronted with numerous production and marketing challenges due to its highly perishable nature, high-tech requirements for irrigation, harvesting, costly planting material/seed and various other inputs etc. Thus, for encouraging the production and marketing of apple as cash crop various challenging in the production and marketing of apple must be identified. Therefore, keeping in the view the importance of apple a high value cash crop in the Solan district and to examine various hurdle in its production and marketing the present study was conducted. The main objectives of the investigation are as below:

Objectives:

1. To study the existing status of apple production in Solan District.
2. To study the production and marketing challenges faced by the farmers.
3. To suggest policy implication for improved production and marketing of apple.

Chapter-2

REVIEW OF LITERATURE

The scientific research is based upon methodical view developed on the previously accrued erudition and experience. A meticulous insight into studies previously conducted relating to the research area under contemplation, therefore, becomes imperative for conceptual clarity, development of reliable methodology and for recognizing the critical gaps for further improvement in research work. Keeping this idea into view, an effort has been made in this chapter to present the resume of work done by various research workers in India and abroad which have been organized and documented chronologically in a range of broad sections. Findings have been categorized under different sections, namely.

Randev *et al.* (1992) conducted a study about rationale of resource use in apple cultivation in tribal areas of Himachal Pradesh. They studied that the expenditure on human labour indicated scope for additional absorption of labour on the orchards. The study carried out by them also revealed that there is possibility of reducing fertilizer consumption on large orchards.

Saraswat (1997) conducted a study on organization of production and marketing of apple in Himachal Pradesh. The study found that, in Himachal Pradesh the area under apple has increased at a compound growth rate of 4.71 per cent per annum %Ode the production increased at 8.34 per cent per annum during 1966-67 to 1990-91. The study revealed that the average productivity per hectare of apple orchards was 1,285 standard boxes of each 18 kg.

Negi *et al.* (1997) conducted a spatio-temporal analysis of marketing of Himachal apples and examined the regional production advantages and analyzed the scope for improving marketing system for horticultural crops in hilly state of Himachal Pradesh and they found that Producers marketing costs were more or less same at around 32 per cent whereas Producer's gross price decreased from 71.5 per cent to 62.40 per cent

Kar *et al.* (2004) studied the integration of Indian apple markets and marketing infrastructure in Himachal Pradesh. The objectives of the study were to examine marketing infrastructure in the state and market integration for apple. Components of market infrastructure examined in the study were number of markets, cold storage, roads,

telecommunication, electrification and cooperatives. Number of markets per sq. km. in the state is low and efforts are being made to develop fruit markets in Shimla and Kullu.

Singh (2004) conducted a study about the causes of low productivity in Himachal Apple. The state of J&K occupies the first place in apple production in the country with between 62 to 67 per cent of the production and 37 per cent of the total area under apple orchards in India. Himachal Pradesh occupies the second place followed by Uttaranchal and Arunachal Pradesh. The analysis of fruit production in Himachal Pradesh during twenty years reveald that annual average production. taking the five year averages from the 1980-81 onwards into consideration, has almost stabilized between 250000 MT and 270000 MT. It was suggested that production has remained fairly static in spite of an expansion in the area at a rate of over 2500 ha per year. Available data indicated that there has been considerable decline in the productivity of apple during the last twenty years. The five-year average productivity declined from 6.57 MT/ha during the period 1980-81 to 1988-2000, showing thereby a decrease of about 30 per cent. The factors which affect the yield are non-uniformity in genetic potential of the cultivars planted, the effect of climatic and environmental conditions and management practices employed by growers.

Singh *et al.* (2004) conducted a study in Shimla district on problems of financing Himachal apple marketing and concluded that the financial requirement was inversely proportional to the size of the orchard, i.e. the small fruit growers required large amount of finance for trading their apples in the distant markets, whereas large growers who were found to he financially sound could either easily meet their loan requirements from their own resources i.e. savings, or required smaller amount of finance from other sources to market their produce. Small orchardists financed by HPMC could not get better net returns per box as compared to the large orchardists, due to inferior grading, low retention capacity and poor management. It was, therefore, suggested that small apple orchardists should be helped in strengthening their financial position.

Chidambaram *et al.* (2005) carried out a study on dynamics of costs and returns structure in agricultural farms in the perspective of the farmers in the Madurai district of Tamil Nadu. The multistage stratified random sampling method was adopted for selection of sample. Results showed that the value of output per acre was found highest in the case of small sized farms. The value of output per acre was found to be Rs. 11,041.48 Rs. 10, 915.79 and Rs. 10,301.56 respectively for the small, medium and large sized farms. Output-Input

ratio for the small, the medium and the large sized farms were 1.54, 1.47 and 1.34 respectively. It was found that the output- input ratio per farms as well as per acre were found to be more in case of small sized farms compared to medium and large sized farms.

Navadkar *el al* (2005) carried out a study on marketing of fruits around Pune city. Necessary data for the study was drawn from 120 fruit growers by simple randomization technique having maximum area under fruits. Moreover time series data on monthly arrivals and prices of mango fruit from 1991-2000 were obtained from agricultural produce market committee. The compound growth rates of annual arrivals and annual mean prices of selected fruits were worked out by fitting exponential form of equation. Results reveal that payments in primary markets %N as made immediately after sale, however, in terminal markets for recovery. 10-15 days were required.

Kumar *et al.* (2007) worked out costs and returns of apple cultivation in Himachal Pradesh. Multistage random sampling technique was used for selection of farmers located in Shimla and Kullu district. The initial investment was found to he very high. Maintenance cost incurred by farmers for 7 years ranged from Rs. 34.962 during first year to Rs. 67,444 per hectare during seventh year. Per hectare production costs on marginal orchards was Rs. 1,31,976 per hectare followed by Rs. 1,35,149, 1,28,099, I ,27,321 and Rs. 1,27,182 per hectare on large, semi medium, medium and small orchards respectively. Net returns per hectare from apple was highest on marginal orchards Rs.(1,53,408) followed by large Rs.(1,40,059) and least for medium category orchardists Rs. (1,29,143) respectively. Input—output ratio reveals that on investing rupee 1, orchardists get a return of Rs. 1.46, 1.48, 1.49, 1.49 and 1.50 on marginal, large, semi large, medium and small orchards respectively. Hence marginal orchardists were more productive as compared to other category of orchardists. This may be due to efficient management.

Panwar (2011) reported that apple production in Himachal Pradesh is an impending crisis for the farmers. The inherent cause of this crisis is the nature of land holding pattern and deteriorating quality of land.

Varma and Garga (2012) conducted a study on impact of size of land holding, quantity and quality of harvest on profitability of Himachal apple orchards and concluded that in Himachal Pradesh 'quantity of harvest' rather than the quality' is the driving force for profitability of apple farms. In other words for improving profitability of farm, apple farmers

would target improvement in the quantity rather than quality of harvest. It was found that the quantity in turn is positively influenced by the size of holding meaning thereby that the larger the size of a single land holding more is the profit. Therefore to optimize profitability, consolidation of marginal and smaller farms into larger holdings is the way forward.

Mehta *et al.* (2013) conducted a study on production and marketing of Apple Fruit Crop- a Study Premise to Shimla District of Himachal Pradesh. They reported that the market structure of temperate fruits is going through a lot of changes .Commission agents were considered as the most preferred marketing channel among the apple growers. Lack of marketing information and market comparative analysis were emerged as the significant problems faced by the apple growers.

Malik and Choure (2014) conducted a study on Economics of Apple Cultivation in South Kashmir and found that an average cultivators incur Rs4105 on per kannel apple orchard, the major cost to be incurred is cost of nursery which accounts for about 44.66 percent of total initial cost, nearly 9.74 percent of total cost is incurred on layout. Digging and filling of pits and about 14.61, 21.82, 6.10 percent on manure, fertilizers and plant protection of the initial investment respectively. The overall "Variable cost" for maintenance of one kannel apple orchard was estimated Rs 7702.5 which is 43.02 % and Fixed cost was estimated to be Rs 10199.79 this constitutes 56.98% per kannel apple crop. Total return was estimated to be Rs 43341.66 and income generation from apple cultivation was Rs 508787.4/ ha which is good indicator for economy.

Natakyo et aL (2013) conducted a study on social economic factors affecting apple production in South Western Uganda This found that there was positive net cash flow (US$ 2,398.5) after the fourth year. Labour had the highest cost accounting for 41.8 percent of total production costs. Organic fertilizer, farmers experience and labour were the most critical factors of production. They had a positive and significant effect, explaining 63.6 percent of the variation in apple production. Organic fertilizer had the highest elasticity (0.77), followed by labour and land with elasticity coefficient of 0.28 and 0.01, respectively. The elasticity coefficient of organic fertilizer applied in apple fields was 0.77 and was significant at one percent level. This implies that a one percent increase in organic fertilizer applied would cause a 0.8percent increase in apple output.

Chapter-3

MATERIALS AND METHODS

The research methodology is the systematic, theoretical analysis of the procedures applied to a field of study (Kothari, 2004). It involves procedures of describing, explaining and predicting phenomena so as to solve a problem; it is the 'how's'; the process or techniques of conducting research. A Methodology does not set out to provide solutions but offers the theoretical underpinning for understanding which procedure, set of procedures can be applied to a specific case. Research methodology encompasses concepts such as research designs, target population, sample size and sampling procedure, data collection instruments and data analysis procedure.

Area of the study

For the concerned study Kinnaur District was purposively selected and Kalpa Block was further selected to draw a sample from five villages representing five Panchayats.

Population of the study

Population is a complete set of elements (persons or objects) that possess some common characteristic defined by the sampling criteria established by the researcher. The population of the present study are consumers of Kalpa Block Town in Himachal Pradesh.

Sampling

A sample is a subset of a population that is used to represent the entire group as a whole that is used to draw conclusions about the entire group. Sampling is a technique used in a statistical analysis in which a predetermined number of observations are taken from a larger population. In order to select the sample size out of total population convenient sampling is used. Convenience sampling is a sample taken from a group you have easy access to.

Sample size

The sample size for the present study has been 60 respondents representing 5 villages in Kalpa Block were taken.

Data collection

Data collection is a process of collecting data for the research purpose using both primary and secondary sources. The task of data collection begins after a research problem has been defined (Kothari, 2004). Both primary and secondary data has been used in the present study.

Primary data

Primary data is collected by the investigator him/ her for a specific purpose. Primary data is costlier to obtain than secondary data, which is obtained through published sources, but it is also more current and more relevant to the research project.

Survey instrument

The questionnaire in the present study consisted of two parts. Part I was designed to get the information based on demographic variables such as name, gender, age, marital status, education qualification, occupational status. Part II of the questionnaire gave the opinion of the respondents on green products. Part III was designed to assess the buying behavior of consumers towards green products. Part IV gives the information on importance given to various factors determining purchase decision and perceptions of respondents on environmental issues.

Secondary data

The secondary data, on the other hand, are those which have already been collected by someone else and which have already been passed through the statistical process (Kothari 2004). The secondary data has been collected through the past surveys, books, journals, newspaper, company websites, other research works and websites.

Data analysis

Data analysis refers to computing of certain measures along with searching on pattern of relationship that exist among data groups. The data collected from different sources was classified and tabulated according to the requirement of the study. The analysis of present study has been done through appropriate statistical and mathematical tools.

Percentage analysis

Percentage method refers to special kind of ratio which is used in making comparison between two or more series of data. The formula used for percentage method is:

P =X/Y*100

Where X= number of respondents falling in specific category to be measured.

Y= total number of respondents.

Mean

The arithmetic mean has been applied to study the option of the sample respondents on 5-scale for different statements. The arithmetic mean has been calculated by assigning numerical value to the quantitative statements. These values have been assigned for these qualitative respondents as one for strongly disagree, two for disagree, three for neutral, four for agree and five for strongly agree. The formula used for used for Arithmetic Mean is:

$$\mathbf{X = \sum X/N}$$

Where

X = Arithmetic Mean

$\sum X$ = Sum of the value of observation on the variables

N = Number of observation

Chapter-4

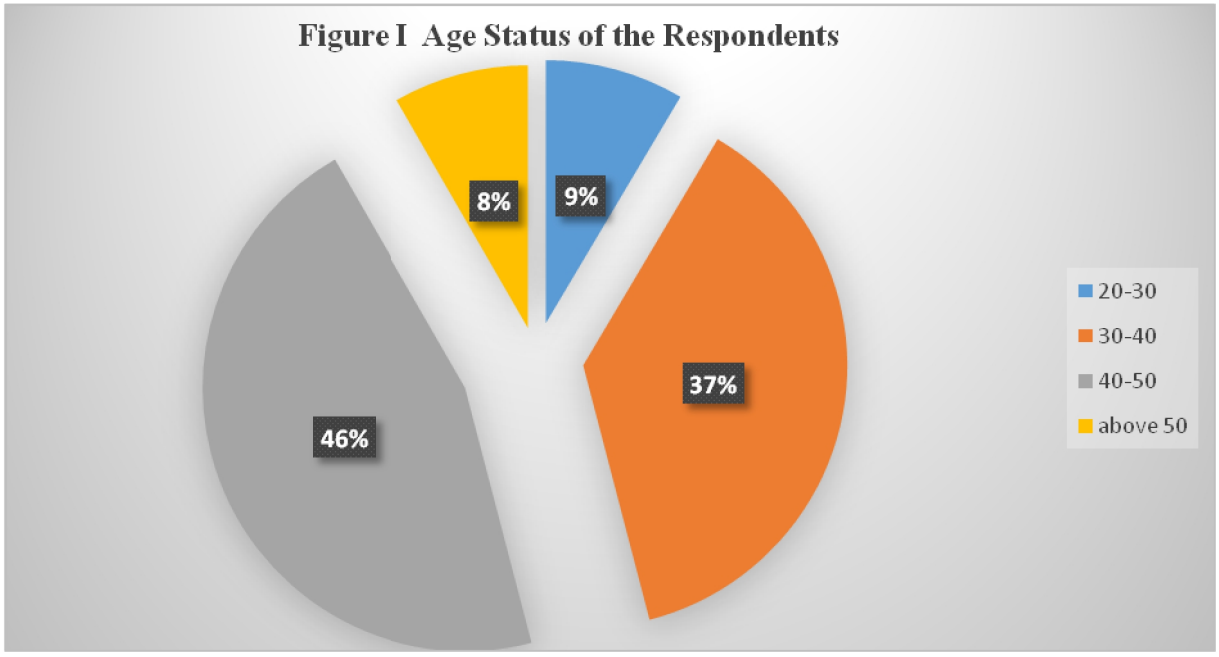
RESULTS AND DISCUSSION

The present investigation entitled "A study on Production and Marketing of Apple in Kalpa Block of District Kinnaur, H.P." was carried out in five Panchayats of Kai pa Block during year 20 16. he data obtained during research were analyzed by using different mathematical tool. The results are presented as below:

It is inferred from the above table that most of the orchard owners are in the age group of 40-50 year 's. These respondents are generally those who have inherited the apple orchards in the family, orchardists in age group of 20- 30 are negligible as head of orchards.

Table 4.1 Age Status of the Respondents

Age (years)	No of Respondents	Percentage
20-30	0	0
30-40	9	15
40-50	29	48.3
Above 50	22	36.70
Total	60	100



The above table indicates that most of the families are joint and this type of family structure is more favorable for apple cultivation as work of orchard can be distributed among

the family members. This trend shows better results for performing the apple cultivation. In case of nuclear families, the labour wages count highest among the cost of production.

Table 4.2 Family Type of Respondents

Family type		
Type	**No of Respondents**	**Percentage**
Nuclear	28	46.70
Joint	32	53.30

Average number of males (3.03) was slightly more as compared to females (2.9).

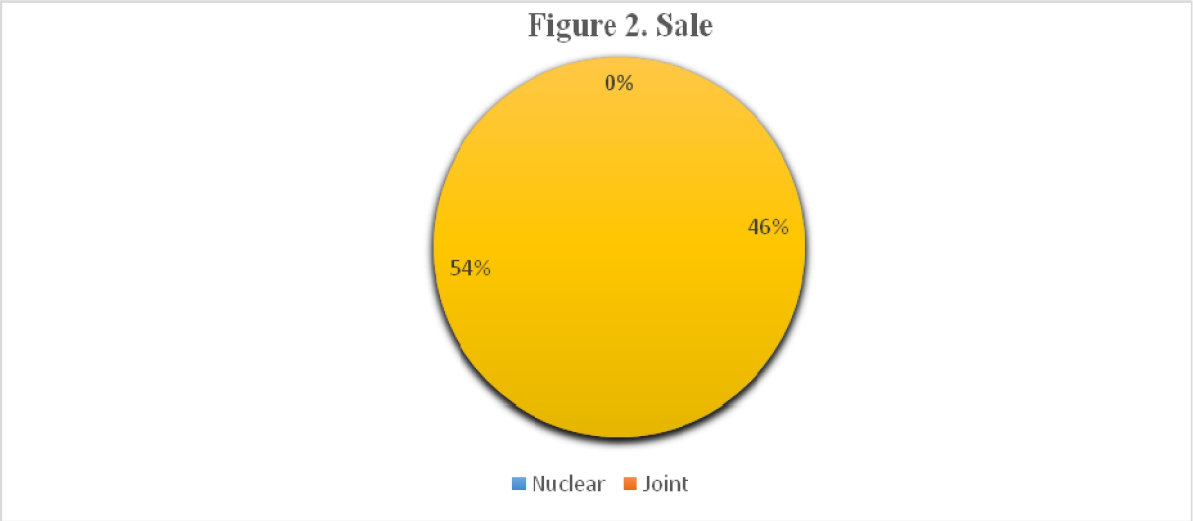


Table 4.3 Gender Distribution of the Respondents

Gender		
Type	**No of Respondents**	**Percentage**
Male	3.03	51.41
Female	2.9	48.59
Total	5.9	100

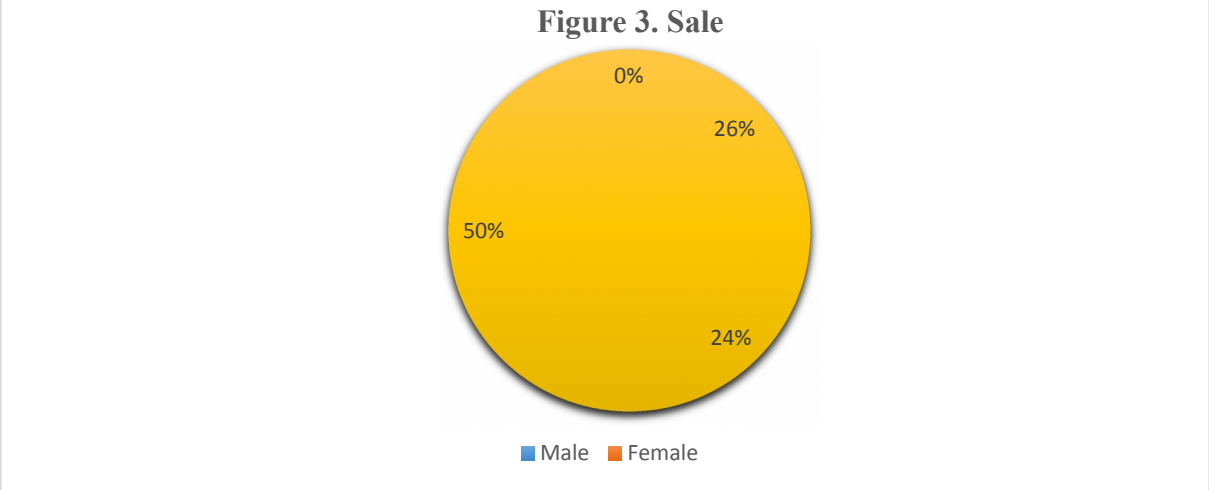
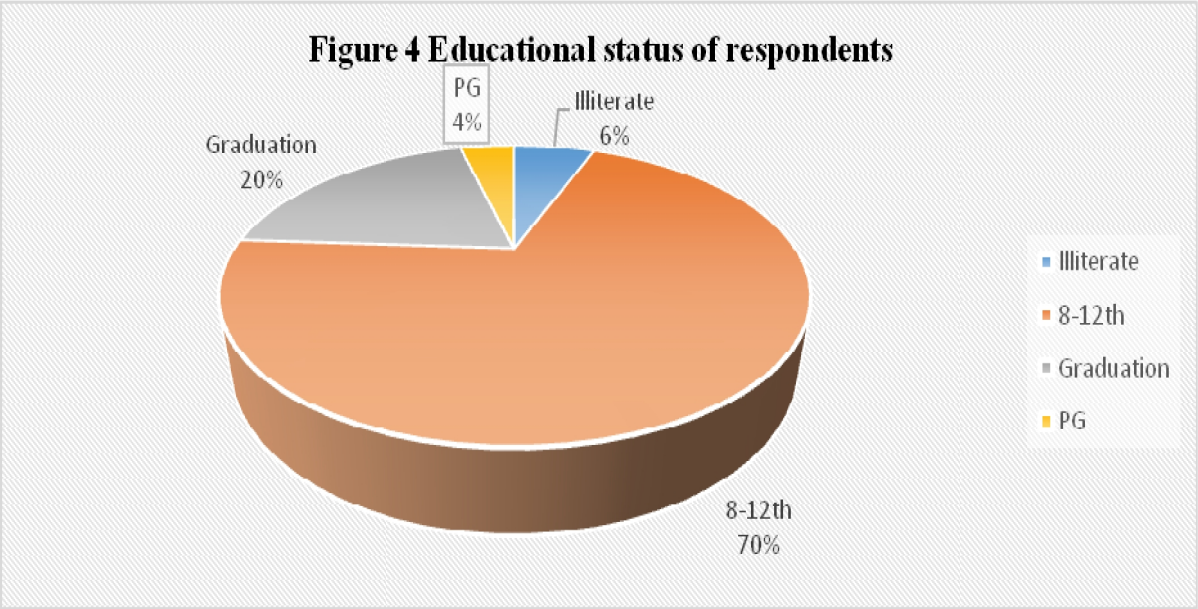


Table 4.4 Educational Status of Respondents

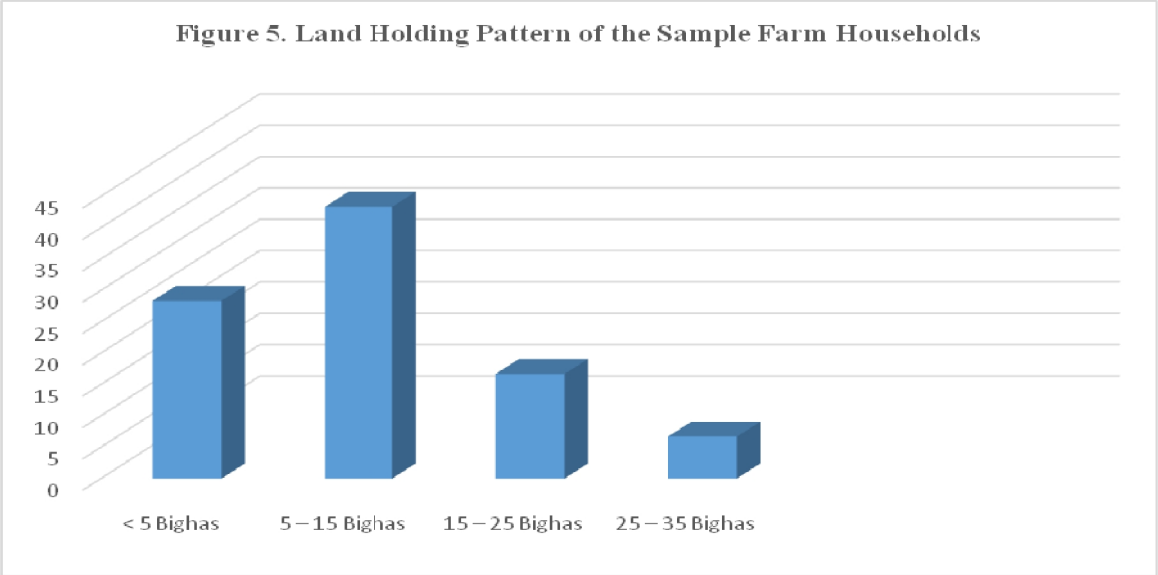
Education	No of Respondents	Percentage
Illiterate	13	21.7
Primary	15	25.0
Matric	11	18.3
Plus two	8	13.3
Graduate	12	20.0
PG	1	1.7
Total	60	100.0



The above table shows that about 25 per cent of respondent have education upto primary and 18.3 per cent are I0+ 2. 21. 7 per cent of respondents were illiterate.20.0 per cent respondents in the study area were graduates and 1.7 per cent respondents were post graduate. Importance of education is reflected in the farm management, because it is often the case that educated person being better informed, will be in a better position to take decisions.

Table 4.5 Land Holding Pattern of the Sample Farm Households

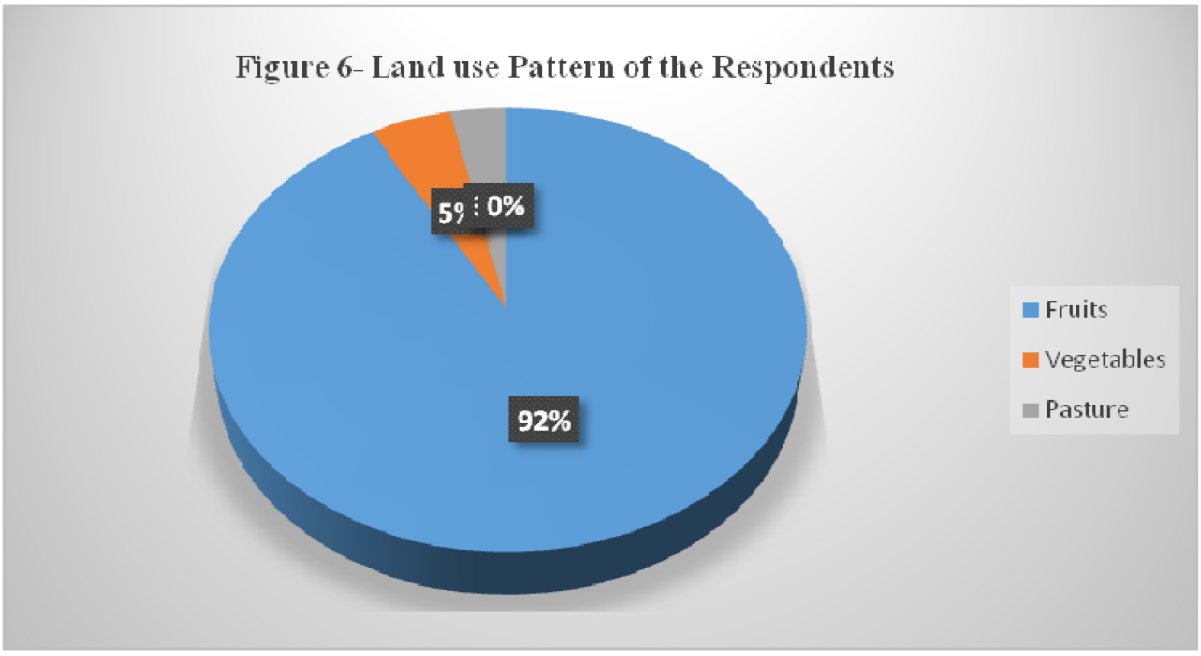
Land holding	No of Respondents	Percentage
< 5 Bighas	17	28.33
5 – 15 Bighas	26	43.33
15 – 25 Bighas	10	16.67
25 – 35 Bighas	4	6.67
Above than 15 Bighas	3	5
Total	60	100



It is clear from table 4.5 most of respondent were having land holdings less than 15 bighas, whereas there were very less orchardists having land above 15 bighas and a few (5%) possess land over 35 bighas. It can be state from the above table that the average orchard size was quite small in the region.

Table 4.6 Land use Pattern of the Respondents

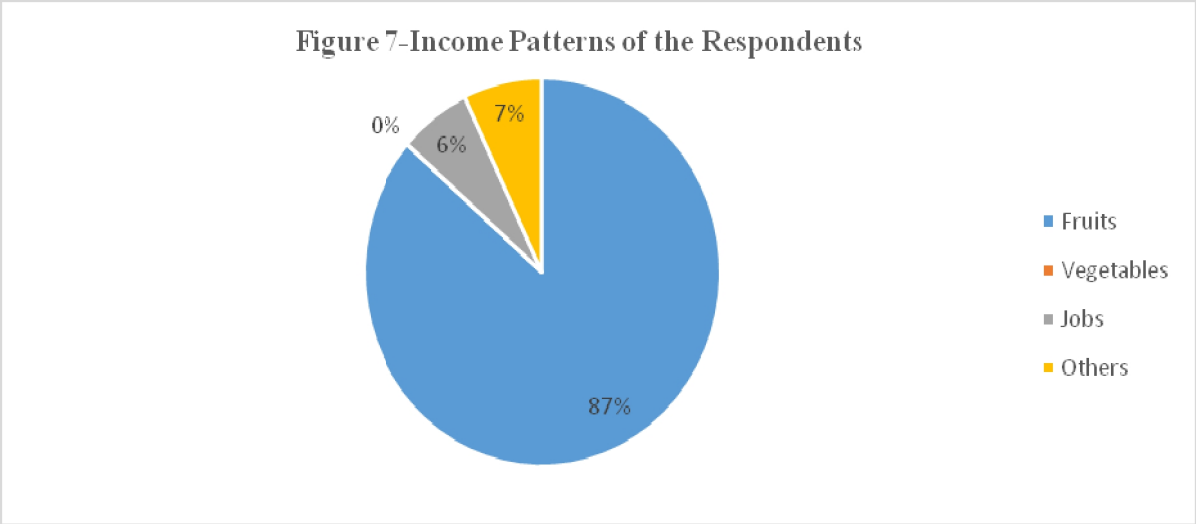
Land use pattern	Avg. Land (Bighas)	Percentage
Fruits	13.5	91.77
Vegetables	0.683	4.90
Pasture	0.483	3.33
Total	14.666	100.0



It is clear from the table that most of the land is under fruit cultivation i.e. (91.77%) and land under vegetables (4.90%) was comparatively very low. Ghasni and pastures constitute (3.33%) of total landholdings.

Table 4.7 Income Patterns of the Respondents

Income Generated from Agriculture	
Type	**Percentage**
Fruits	86.46
Vegetables	0.02
Jobs	6.46
Others	7.06
Total	100

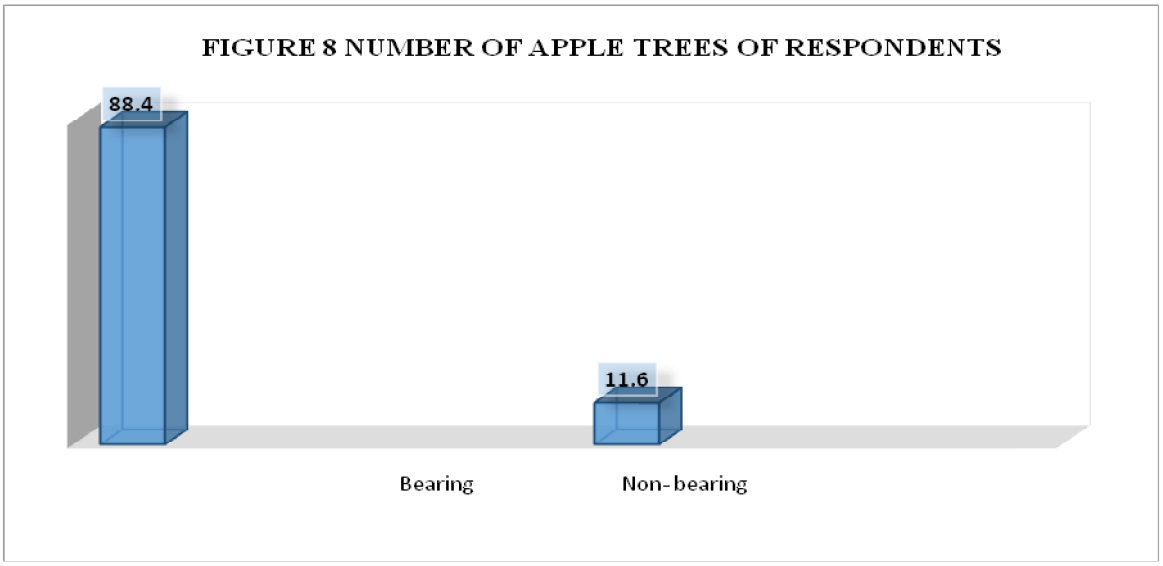


The above table reveals that income from fruits was maximum (86.46%) in Kalpa Block and Apple cultivation dominates the scenario as a cash crop provides more income to the farmers.

Table 4.8 shows the number of bearing and non-bearing trees under study area trees were maximum. It was observed that there was maximum number of trees which were bearing the fruits (87.73%). Only few are in non-bearing stage i.e. (l2-7%).

Table 4.8 Number of Apple Trees of Respondents

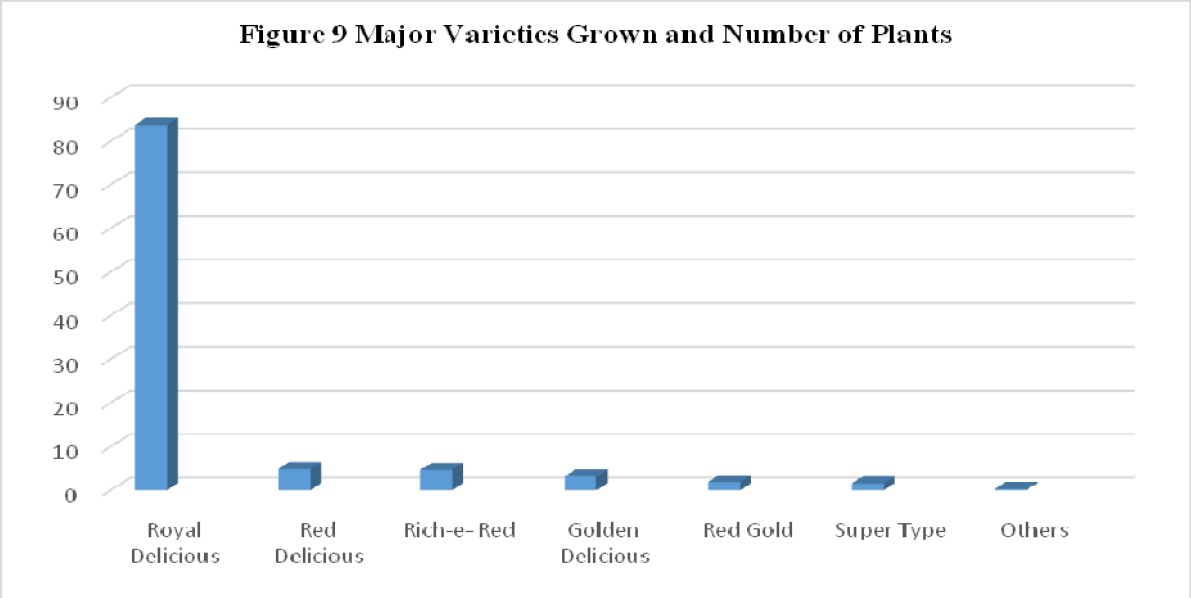
Plants	Avg. No of Trees	Percentage
Bearing	662.3	88.40
Non- bearing	87.5	11.60
Total	749.8	100.0



It is clear from the above figure that Royal Delicious was mainly grown by the respondents as it was the chief marketable variety as per the market experiences of the growers and other varieties contribute only 16.31 per cent.

Table 4.9 Major Varieties Grown and Number of Plants

Varieties	Percentage	No of Plants
Royal Delicious	83.69	37620
Red Delicious	4.84	2160
Rich-e-Red	4.69	2110
Golden Delicious	3.14	1370
Red Gold	1.86	840
Super Type	1.51	680
Others	0.27	120
Total	100.0	44950



Above table shows the annual total production of boxes was less than 500 on the orchards of 25 per cent of respondents. Maximum number of respondent. Maximum numbers of respondent's i.e. 30% per cent were producing 1000- 1500 apples boxes on annual basis.

Table 4.10 Annul Production of Boxes by the Respondents

Annual production of boxes	Number of Respondents	Percentage
< 500	15	25
500 – 1000	5	8.3
1000 – 1500	18	30
1500 - 2000	10	16.67
Above 2000	12	20
Total	60	100

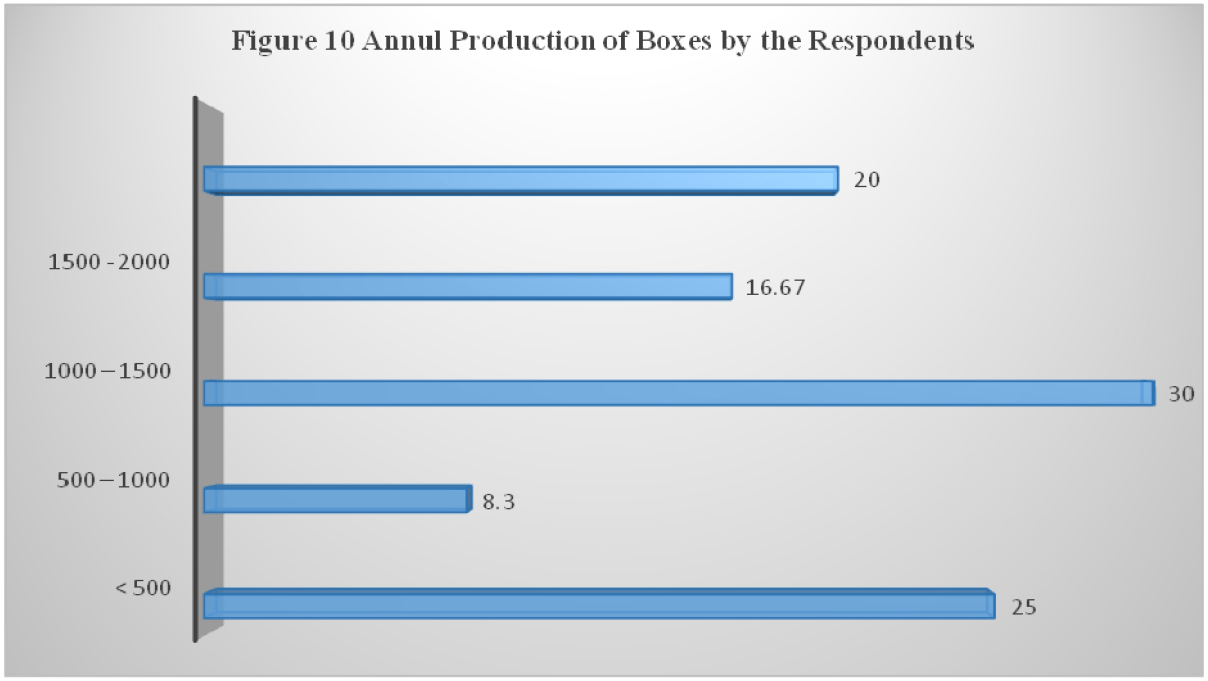
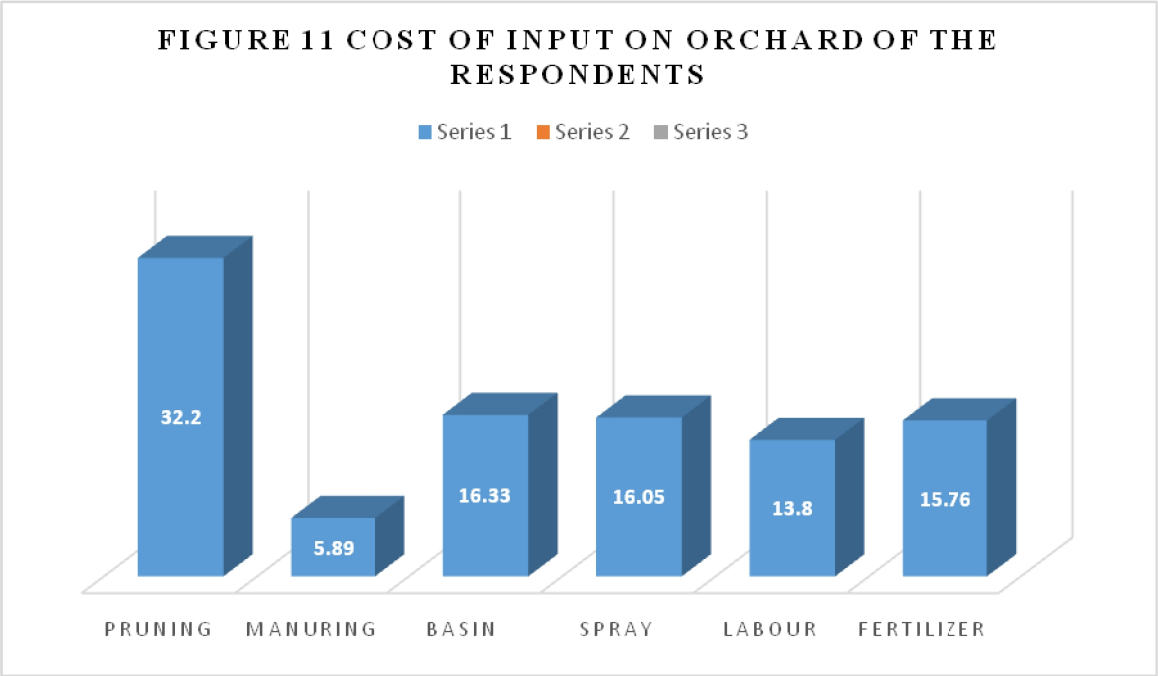


Table 4.11 Cost of Input on Orchard of the Respondents

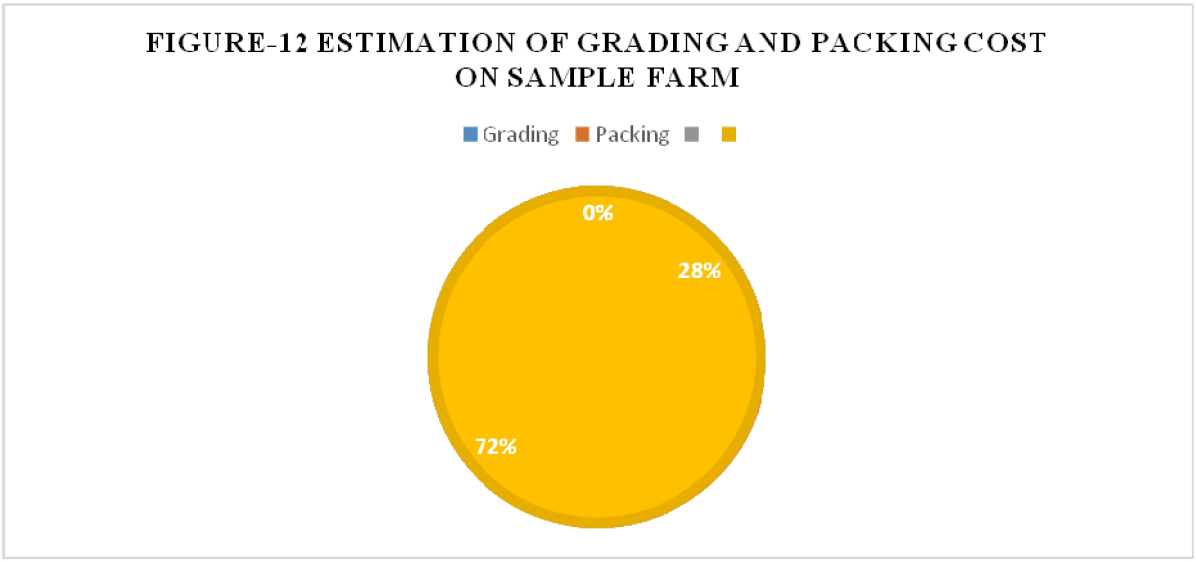
Cost of Input		
Input	**Aveg. Cost/Respondents**	**Percentage**
Pruning	49100	32.20
Manuring	8983.3	5.89
Basin	24900	16.33
Spray	24466.6	16.05
Labour	21000	13.8
Fertilizer	24033.3	15.76
Total	152483.3	100



In table 4.11, most of the respondents pay maximum cost for the pruning as it involved skilled labour. About 13.8 per cent of total cost was spent on the labour for other cultural practice like weeding and harvesting et.

Table 4.12 Estimation of Grading and Packing Cost on Sample Farm

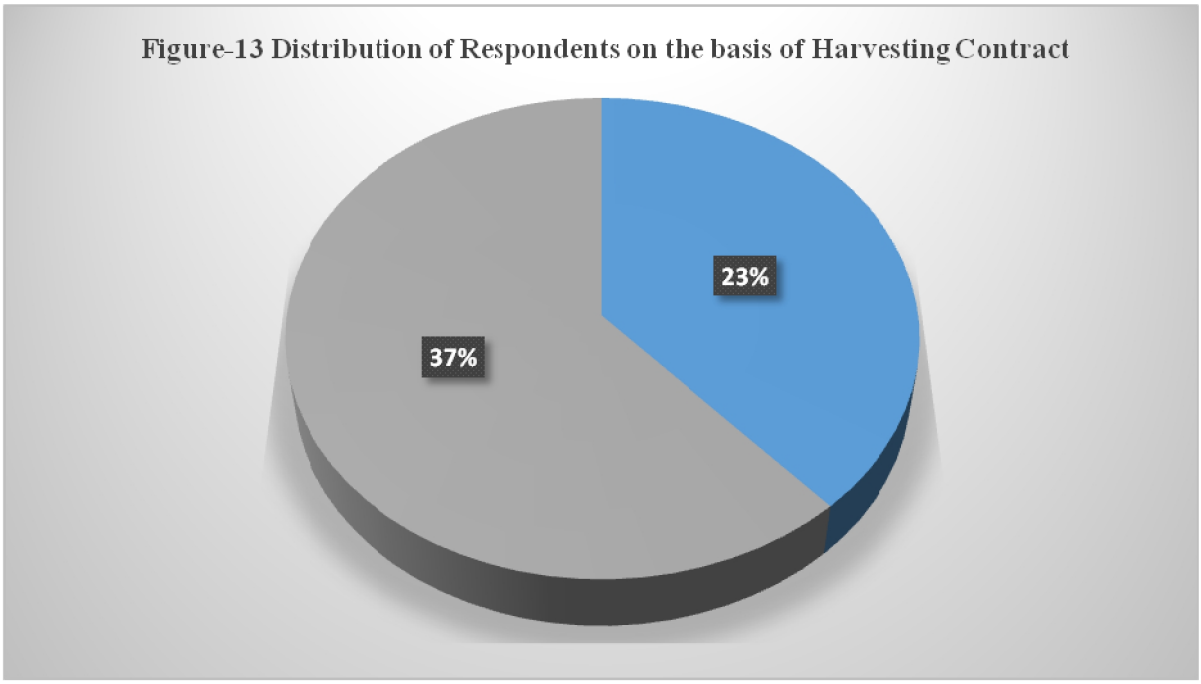
Cost		
Type	**Total (Rs.)**	**Percentage**
Grading	1632	27.55
Packing	4293	72.47
Total	5924	100



Grading and packing are important factors for the successful selling of the produce. Grading of fruits was done either manually or through mechanical graders. It consumed less time and involved less time per cent of cost as compared to packing which involved higher per cent of cost due to greater amount of labour involved. The packing cost was 72.47 per cent of the total cost (Grading and Packing).

Table 4.13 Distribution of Respondents on the basis of Harvesting Contract

To Contract	Response (in number)
Yes	23
No	37



Above figure showed that most of the respondents did not give their orchards pre or post-harvest contract and they were fulltime orchardists. Families which were nuclear or those who were also in some other professions mostly rely on pre or post-harvest contractors.

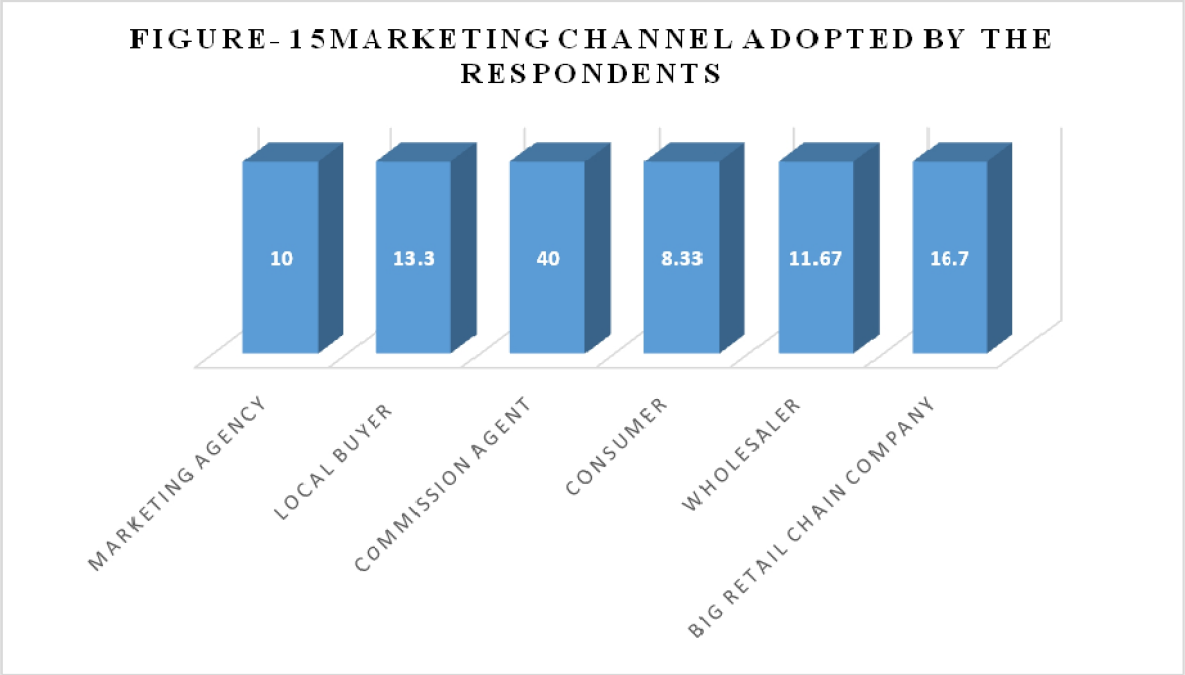
Table 4.14 Reason of giving Orchard to Pre-Harvest Contractor

Reason of giving orchard to contractors		
Problem	**Respondents**	**Percentage**
Labour problem	4	17.391
Market problems	3	13.044
To avoid Risk	3	13.044
Busy in other farm opr	4	17.391
Domestic work	3	13.043
Unaware about marketing	6	26.087
Total	23	100

Form the above representation it is clear that most of the respondents implying pre or post-harvest contracts were unaware about marketing and this may be as they had less knowledge regarding the market. Less availability of labour was another reason besides avoiding market risks.

Table 4.15 Marketing Channel adopted by the Respondents

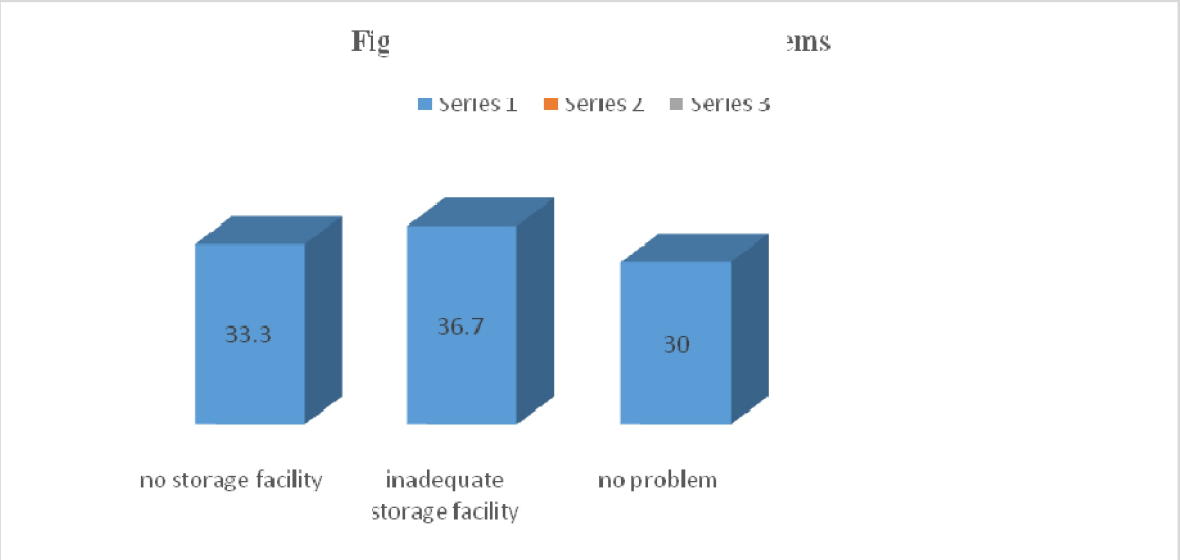
Marketing channel	Respondents	Percentage
Marketing Agency	6	10
Local buyer	8	13.3
Commission Agent	24	40
Consumer	5	8.33
Wholesaler	7	11.67
Big Retail Chain Company	10	16.7
Total	60	100



It is inferred from the above figure that most of respondents relied on commission agents in distant markets due to non-availability of a market nearby. Consumer as a marketing channel was low because of lesser population. Entry of big retail chains affected the marketing agencies and wholesalers involving local people in this region. These companies quoted a higher price and provided better facilities to farmers in terms of quality check and storage.

Total 4.16 Storage Facility Problems

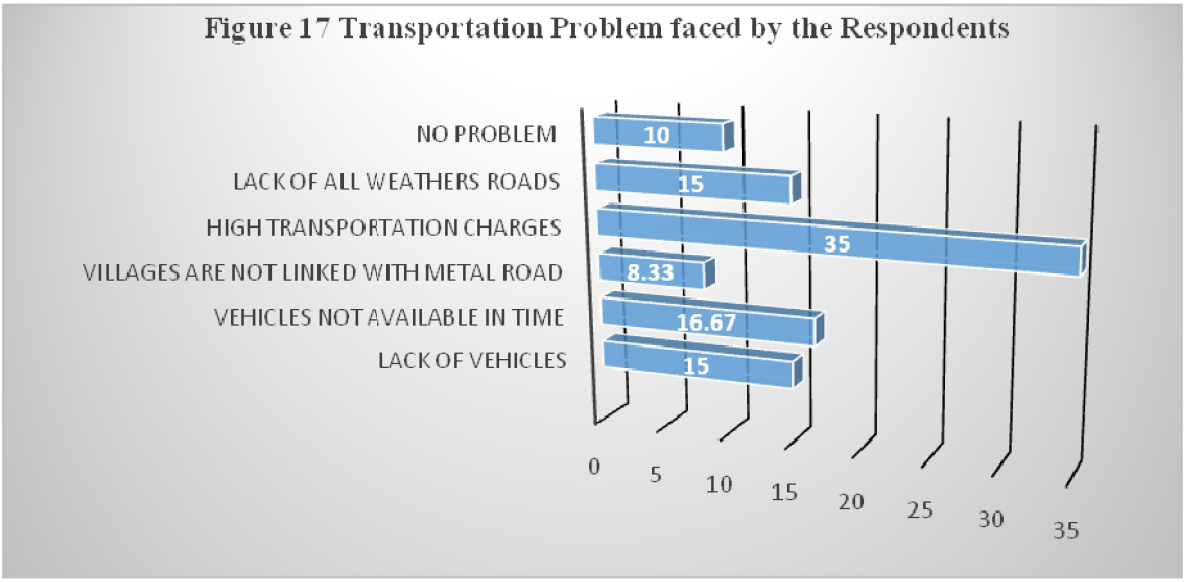
Storage Facilities		
Problem	**Respondents**	**Percentage**
No storage facility	20	33. 3
Inadequate storage facility	22	36.7
No problem	18	30.0
Total	60	100.0



It can be stated from above figure and table that most of the respondents faced inadequate storage facility problem. The orchards were away from the roads and packed boxes of apple were transported to the roads where farmers did not have proper storage facility.

Table 4.17 Transportation Problem faced by the Respondents

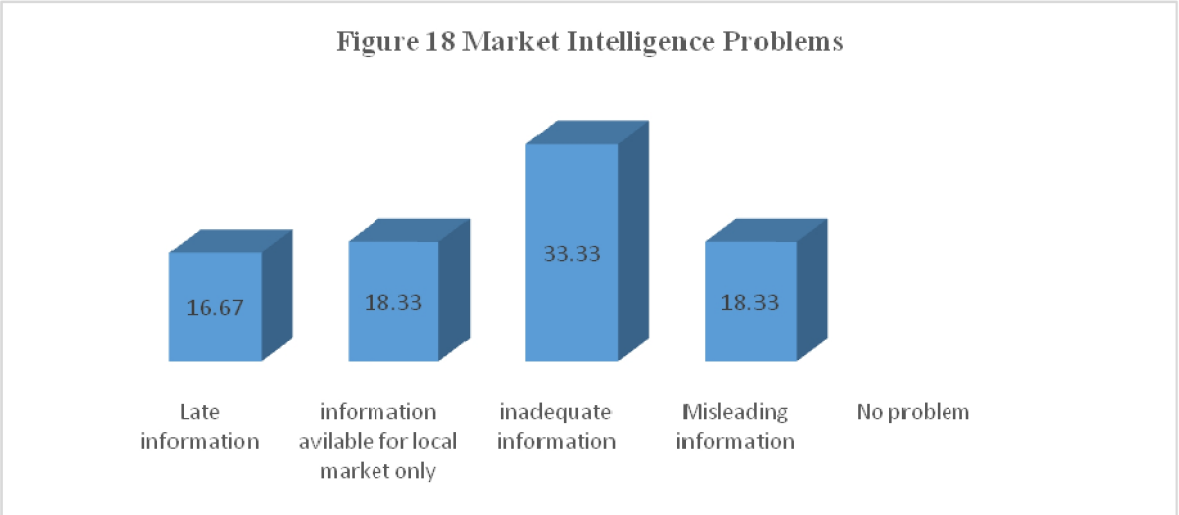
Transportation		
Problems	**Respondents**	**Percentage**
Lack of vehicles	9	15
Vehicles not available in time	10	16.67
Villages are not linked with metal road	5	8.33
High transportation charges	21	35.00
Lack of all weathers roads	9	15.00
No problem	6	10.00
Total	60	100.00



It can be inferred from the above table and figure that high transportation charge problem was highly faced by the respondents. Vehicles were not available at proper time. Generally, at the time of apple season truck unions increase their rents and due to lack of carriage vehicle monopoly in rent was common. There was few number of respondents who have no transportation problem i.e. 6 per cent.

Table 4.18 Market Intelligence Problems

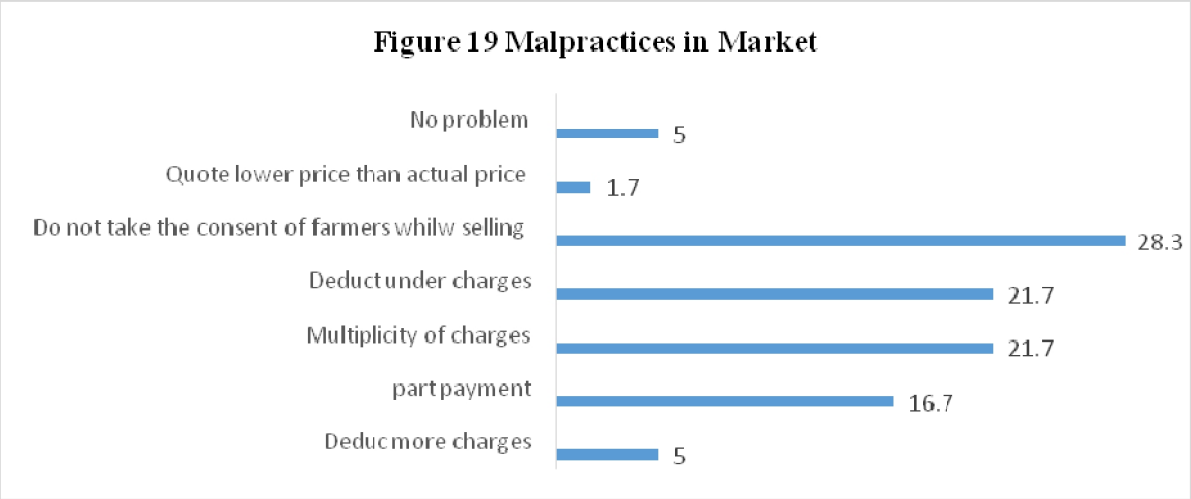
Market intelligence		
Problems	**Respondents**	**Percentage**
Late information	10	16.67
Information available for local market only	11	18. 33
Inadequate information	20	33. 33
Misleading information	11	18. 33
No problem	8	13. 34
Total	60	100.0



It is revealed from the above table and figure that inadequate market information problem was faced by respondents. Most of the farmers were unaware of present status of the market; In case of distant markets trader quote prices depend on their own interest.

Table 4.19 Malpractices in Market

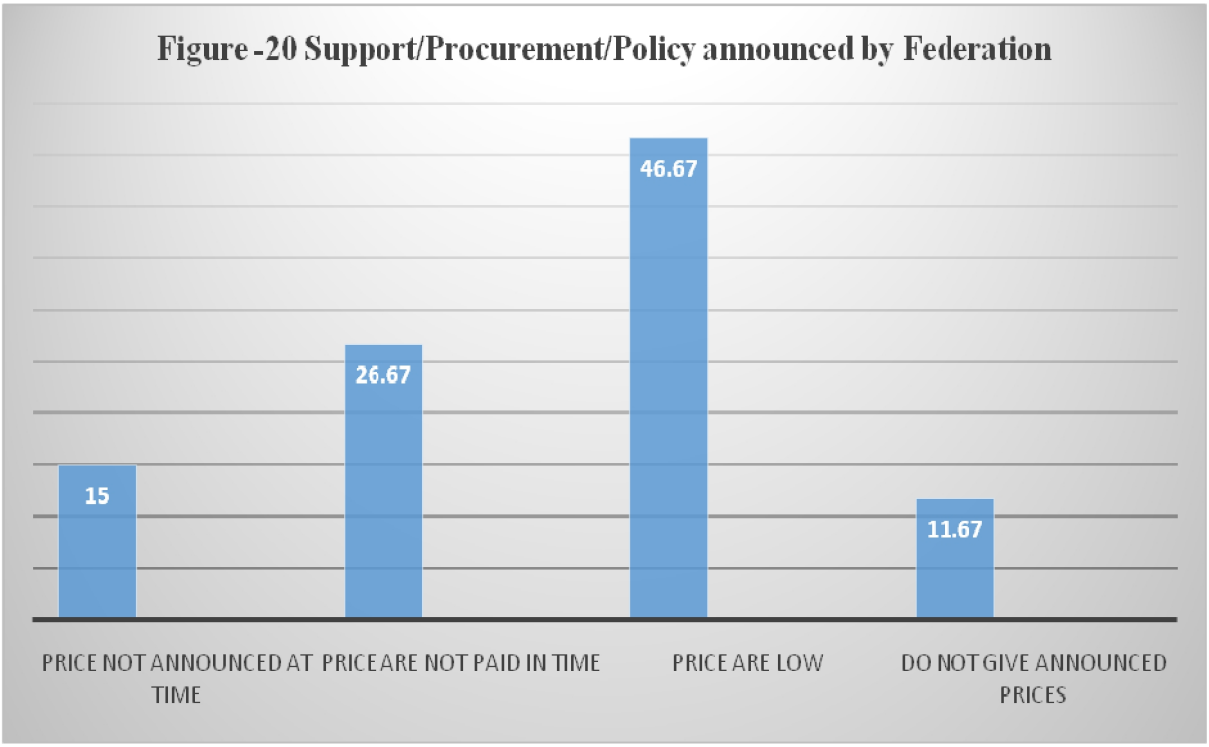
Malpractices in market		
Problems	**Respondents**	**Percentage**
Deduct more charges	3	5
Part payment	10	16.7
Multiplicity of charges	13	21.7
Deduct under charges	13	21.7
Do not take the consent of farmers while selling	17	28.3
Quote lower price than actual price	1	1.7
No problem	3	5.0
Total	60	100.0



It can be stated from the above table and figure that 28.3 per cent respondents think, whole seller in the market did not take the consent of orchards while deciding the price of apple boxes. Moreover, there were 21.7 per cent respondents who facing the problem of multiple charges while marketing of apple. From the study it was also observed that high charges were charged from farmers to enter the market. All Whole sellers quote their own decide prices in the market.

Table 4.20 Support/Procurement/Policy announced by Federation

Support/procurement price/policy announced by federation		
Problems	**Respondents**	**Percentage**
Price not announced at time	9	15.00
Price are not paid in time	16	26.67
Price are low	28	46.67
Do not give announced prices	7	11.67
Total	60	100.0

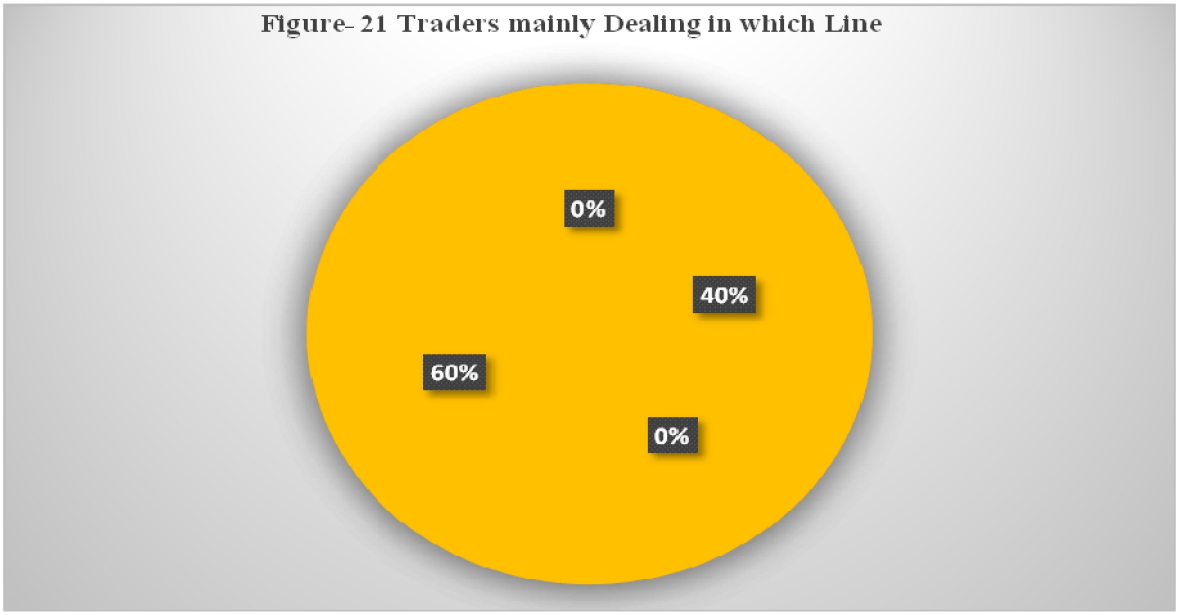


It can be stated from the above figure and table that there were 46.67 per cent respondent who face lower price of their produce followed by 26.6 7 per cent respondents who did not receive the price of products in time. From the research it was observed that respondents faced maximum problem of lower prices whereas least faced problem was price announced that are paid to respondent. In maximum markets these problems were faced by producer as trader increase their margin by quoting fewer prices to the producer.

RESULTS AND FIGUREs IN REGARD OF TRADERS

Table 4.21 Traders mainly Dealing in which Line?

Trading dealing		
Type	**No of respondents**	**Percentage**
Fruit	4	40
Vegetables	0	0
Fruits and Vegetables	6	60
Others	0	0
Total	10	100



It can be interpreted from the above figure and table that most of the traders were trading in fruits and vegetables. Negligible traders were dealing in vegetables and this type of trading was opted by them because fruits had higher margin and less risky in further selling.

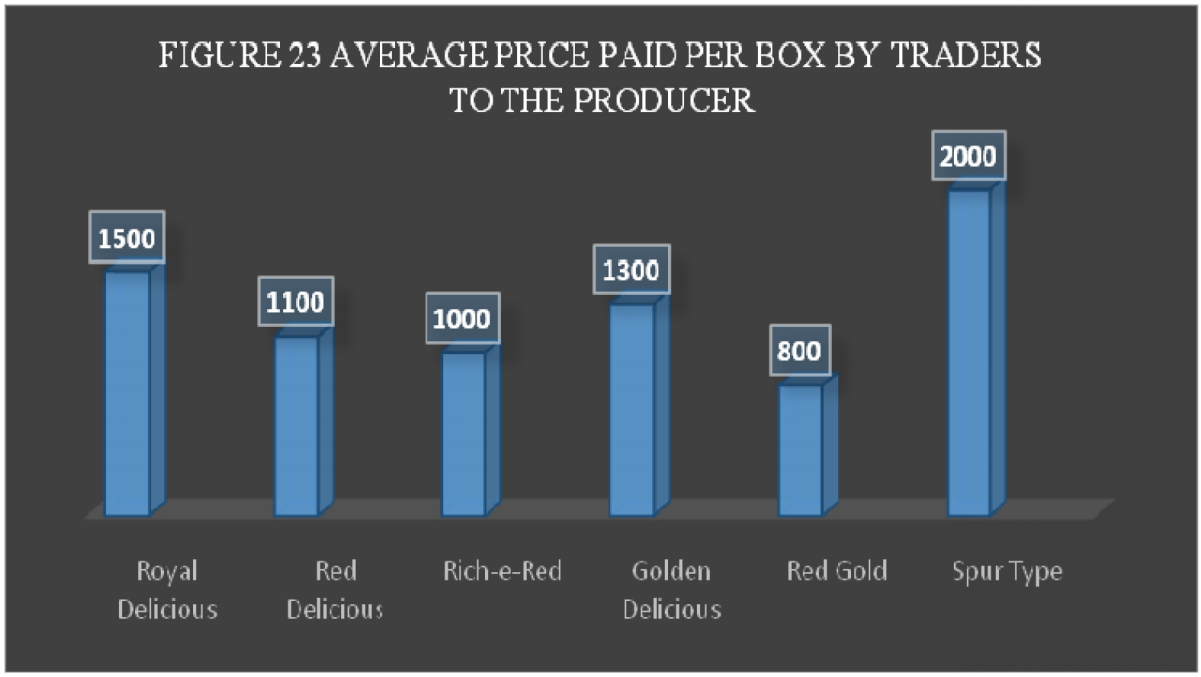
Table 4.22 Traders Experience in this Trade

Experience in this occupation		
Year	**No of respondents**	**Percentage**
< 5	2	20
5 to 10	5	50
>10	3	30
Total	10	100

It is revealed from the above table that 50 per cent of traders have 5-10 year experience in this occupation as they had good knowledge of the market and also had good relations with producer and with other market functionaries.

Table 4.23 Average Price paid per Box by Traders to the Producer?

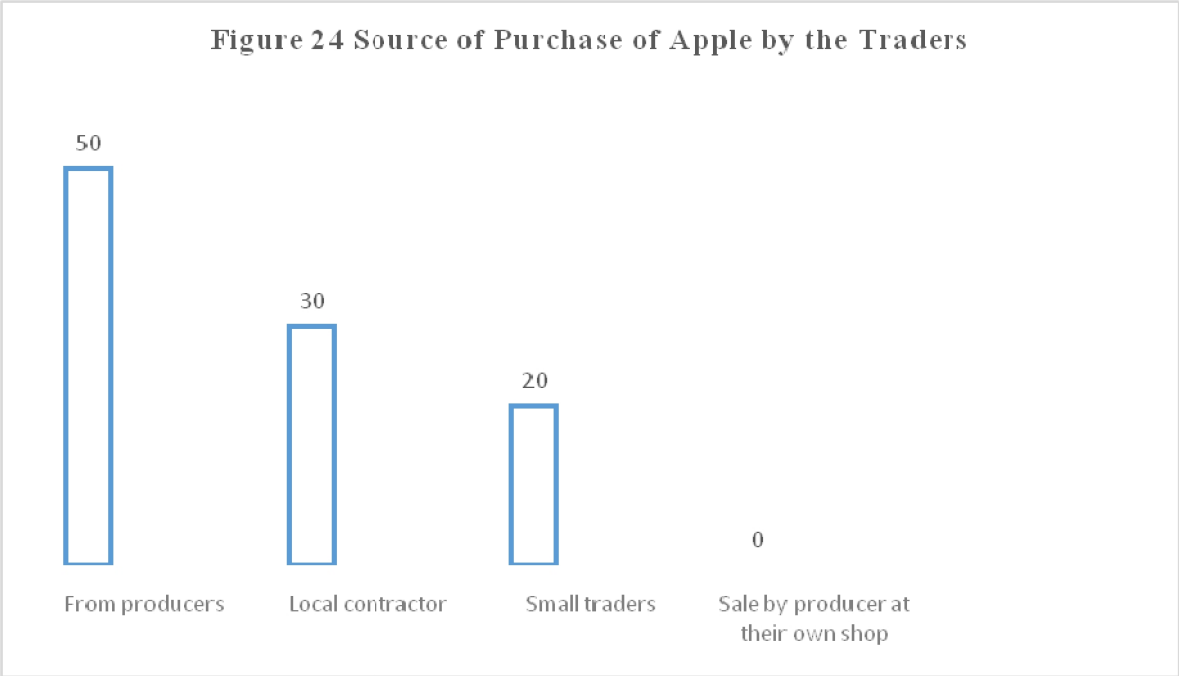
Price paid per ox by the traders	
Variety	**Price paid per box (Rupees)**
Royal Delicious	**1500**
Red Delicious	**1100**
Rich-e-Red	**1000**
Golden Delicious	**1300**
Red Gold	**800**
Spur Type	**2000**



The above table and figure show that highest price was paid to Spur Type i.e. Average Rs 2000 per box, but due to lake of such varieties in Kalpa Block Royal Delicious is the most preferred variety in the study area. The average price paid per box is Rs 1500 for Royal Delicious followed by Golden Delicious i.e. 1300 per box. Other varieties like Red Delicious Rich-e-Red and Red Gold have less market value as compare to other top varieties.

Table 4.24 Source of Purchase of Apple by the Traders

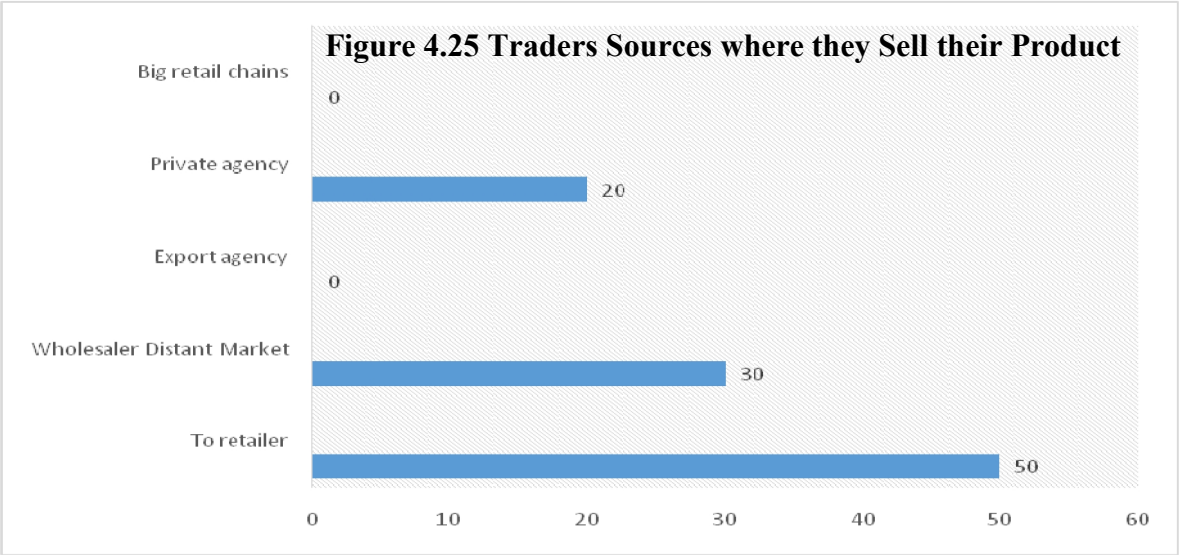
Source of purchase of apple		
Source	**No of Respondents**	**Percentage**
From producers	5	50
Local contractor	3	30
Small traders	2	20
Sale by producer at their own shop	0	0
Total	10	100



It is clear from the above table and figure that traders preferred to purchase most of apple directly from the producers a form this source they can increase their margin by compensating with farmers. In some areas small traders and local contractors purchased apple from farmers and then supplied it to big trader.

Table 4.25 Traders Sources where they Sell their Product

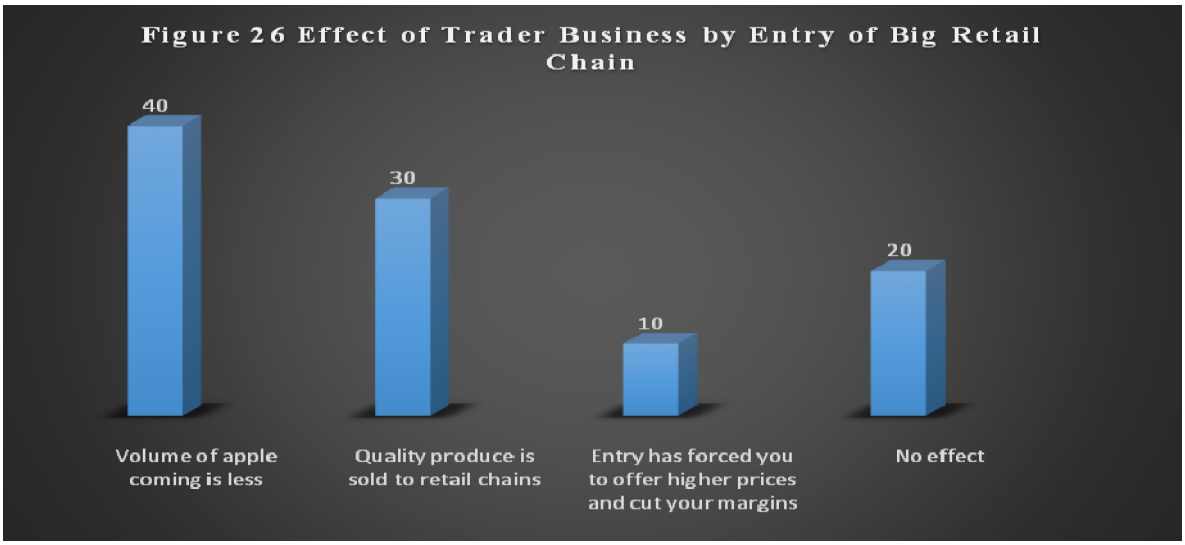
Where Traders Sell their Purchase		
Type	**No of Respondents**	**Percentage**
To retailer	5	50
Wholesaler Distant Market	3	30
Export agency	0	0
Private agency	2	20
Big retail chains	0	0
Total	10	100



It can reveal from the figure that most the traders either sold their produce to the retailers or to the wholesalers in distant market or to the private agency in distant market. Moreover, it can be stated that big retail chains did not purchase apple from the traders. They generally purchased it from the farmer as their quality standards were high and the quoted different price depend on the lot Moreover traders had less contact with export agencies.

Table 4.26 Effect of Trader Business by Entry of Big Retail Chain

Effect on trader business by entry of big retail chains		
Type of Effect	**No of Respondents**	**Percentage**
Volume of apple coming is less	4	40
Quality produce is sold to retail chains	3	30
Entry has forced you to offer higher prices and cut your margins	1	10
No effect	2	20
Total	10	100



It is inferred from table 4.26 that trader business was affected by the entry of the big retail chains in the market as retail chains selected the best orchard and good quality product and purchase them from the farmers directly because of this reason volume of apple was coming less to the traders and quality product was sold to the chains. Moreover, the chains quote paid high price to farmers which affected the price paid by the traders. Small traders remain unaffected by chains as their purchasing level was less.

Table 4.27 Do Traders Also Deal with Big Retail Chains

Do traders also deal with big retail chain		
Dealing type	**No of Respondents**	**Percentage**
Volume of sales with them is higher	0	0
Financial deals are completed fast	0	0
Margins and higher	0	0
Quality standard are higher	0	0
No deal	10	10
Total	10	100

It is revealed from the table 4.27 that there was lake of trader deal with the big retail chains as big retail chains do not interact with the traders and directly bought the produce from the farmers. They check the whole orchard whether apple was in accordance of their wanted size. Shape, color and quality.

Chapter-5

SUMMARY AND CONCLUSIONS

Apple production in Kalpa Block of the District is confronted with numerous production and marketing challenges due to its highly perishable nature. high-tech requirements for irrigation, harvesting, costly planting material/seed and various other inputs. Demographics of respondent reveals that few orchards have area above 15 bighas and the owner or decision maker of these orchards are in the age group of 40-50 or above 50 years these are generally those people who have either inherited or developed orchard in the family. The income generated from the fruits is very high (86.46%) whereas income from other sources is 13.54 per cent. The study reveals that land under fruit cultivation is maximum which is around 92 per cent of total land holding of the respondents.

Salient findings of the study are as below:

- Through research it is found that orchardists are following the new and improved technologies for increasing the productivity. The study revealed that Royal Delicious variety has contributed major proportion i.e. 83.69 per cent out of the total number of trees as the traders pay a price of around Rs 1120 for them.
- About 13.8 per cent of total cost is spent on labour and other cultivation practices like weeding and harvesting. Cost of input on pruning and basin making is maximum as these two practices require skilled labour and more labour days.
- The study also shows that 38.3 per cent respondents give orchard to per or post-harvest contractors. 40 per cent of the respondent rely on the commission agents in distant market to sell their produce and 16.7 per cent respondents sell their produce to big retail chains.
- The study also state that traders prefer to purchase most of apple from the producer to increase the margin. Big retail chains buy the quality produce and quantity of apple coming to traders is less. However big retail chains don't interact or deal with the traders.
- The study indicated that High transportation charges and lack of vehicles is faced by 51 .67 per cent respondents, Inadequate and misleading information about the market faced by 51 .6 per cent respondents and in market the bidder does not take consent of the farmers while selling produce. The multiplicity of charges is faced by 50 per cent respondents are the major constraints faced by the respondents.

Suggestion

1. On the basis of present study, the following recommendations can be made to be addressed and promote production and marketing of apple.
2. The growers should maintain the quality of the fruit and take care of packing material to compete in the market.
3. There is large scope for food processing industries due to higher quantity of culled fruits in apple.
4. In order to reduce the post-harvest losses, expansion of road network in the apple producing areas and improvement of the road conditions is necessary.
5. Pricing is the main motivating factor that affects the decision of farmers. Therefore, pricing strategy should be communicated well before harvesting.
6. Apple marketing through internet needs to be introduce and popularized in major terminal markets of the country and among orchardists.
7. Companies should not only concentrate on big apple growers. But must also pay equal attention to small growers.
8. Companies in collaboration with the Department of horticulture should organize different awareness camps and seminars regarding apple and technological advances in the field of horticulture.

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APPENDICES

QUESTIONNAIRE

Questionnaire for the farmers

Dear Sir /Madam

I am working on the project entitled "Production and Marketing of Apple in Kalpa Block region "as a part of MBA curriculum. Please read the following statement carefully and give your response. I assure you that information provided by you will be used for academic and research purpose only. I shall be highly thankful to you for your co-operation.

TITLE: Productivity and Marketing analysis of Apple in Kalpa Block of District Kinnaur.

Socio-economic structure of the household

Location

Village Panchayat/ block

Occupation

Main Ancillary

Personal Information (Head of the family/Decision maker)

Name Sex

1) **Age:**

☐20-30 ☐ 30-40 ☐40-50 ☐Above 50

2) **Educational status of Respondents**

☒Illiterate ☐ Matric ☐Graduate ☐PG

3) **Gender distribution of the Respondent`s**

☐Male ☐Female

4) **Family type of respondent`s**

☐Nuclear ☐Joint

5) **Land holding pattern of the Orchard respondents (in Bighas).**

☒<5 ☐5-15 ☐15-25 ☐25-35 ☐above 35

6) **Land use pattern of the respondents (in Bighas).**

☐Land under fruit ☐Vegetables cultivation land ☐Ghasni/ pasture

7) **Income pattern of the respondents.**

Income generated from agriculture	
Fruits	
Vegetables	
Income generated other than agriculture	
Jobs	
Others	

8) Income pattern of the respondents

Income generated from agriculture	
Fruits	
Vegetables	
Income generated other than agriculture	
Jobs	
Others	

9) Number of apple Trees of respondents

Plants	No of trees
Bearing	
Non-bearing	
Total	

10) Major varieties grown and number of plants with respect to that variety

Varieties	No of plants
Royal delicious	
Red delicious	
Rich-e-Red	
Golden Delicious	
Red Gold	
Spur Type	
Others	
Total	

11) Annual production of boxes by the respondents

Annual production of boxes	Range
<500	
500-1000	
I 000-1500	
1500-2000	
above 2000	

12) Cost of Input on Orchard of the respondents

Input	**Cost**
Pruning	
Manuring	
Basin	
Spray	
Labour	
Fertilizer	

13) Cost per box paid by respondents

Type	**Cost**
Grading	
Packing	
Total	

14) Pre-Post harvesting contract status

Harvesting contractor	Response
Yes	
No	

15) Reason of giving orchard to Pre-harvest contractor

Problem	Response
Labour Problem	
Market Problems	
To avoid Risk	
Busy in other Farm opr	
Domestic work	
Unaware about marketing	

16) Marketing channel adopted by the respondents

marketing channel	Response
Marketing agency	
Local buyer	
Commission agent	
Consumer	
Wholesaler	
Big retail chain company	

17) Storage facility problem

Problem	Response
No storage facility	
Inadequate storage facility	
No problem	

18) Transportation problem faced by the respondents

Problems	Response
Lack of vehicles	
Vehicles not available in time	
Villages are not linked with metal road	
High transportation charges	
Lack of all weathers roads	
No problem	

19) Market intelligence problem

Problems	Response
Late information	
Information available for local market only	
Inadequate information	
Misleading information	
No problem	

20) Malpractices in market

Problems	Response
Deduct more charges	
Part payment	
Multiplicity of charges	
Deduct under charges	
Do not take the consent of farmers while selling	
Quote lower price than actual price	
No problem	

21) Support/procurement/policy announced by federation/cooperative problem

Problems	**Response**
Price not announced at time	
Price are not paid in time	
Prices are low	
Do not give announced prices	

QUESTIONNAIRE FOR TRADERS

1. **Name of the shop and owner _____**
2. **Mainly dealing in:**

Type	**Response**
Fruits	
Vegetables	
Fruits and Vegetables	
Others	

3. **Number of year in business?**

Year	**Response**
<5	
5 to 10	
> 10	
Total	

4. **Average price paid per box by traders to the producer?**

Price Paid per box by the Traders	
Variety	**Price Paid per box**
Royal delicious	
Red delicious	
Rich-e-Red	
Golden Delicious	
Red Gold	
Spur Type	

5. Source of purchase of apple by the traders'?

Source	Response
From Producers	
Local Contractor	
Small Traders	
Sale by Producer at their own shop	

6. Traders source where they sell their product?

Type	Response
To retailer	
Wholesaler in Distant Market	
Export agency	
Private agency	
Big retail chains	

7. Effect of traders business by entry of big retail chain?

Type of Effect	Response
Volume of apple coming is less	
Quality produce is sold to retail chains	
Entry has forced you to offer higher prices and cut your margins	
No effect	

8. Do traders also deal with big retail chains?

Dealing type	Response
Volume of sales with them is higher	
Financial deals are completed fast	
Margins are higher	
Quality standard are higher	
No deal	

Department of Business Management
Dr. Yashwant Singh Parmar University of Horticulture & Forestry
(Nauni) Solan (HP)- 173230 India

Title of the Project	**:**	**Production and Marketing of Apple in Kalpa Block of District Kinnaur, Himachal Pradesh, India**
Name of the Student	**:**	Sayed Modaser Hashimi
Admission Number	**:**	H-2019-26-ABM
Major Discipline	**:**	Agricultural Marketing Management
Minor Discipline	**:**	Human Resource Management
Date of Project Submission	**:**	
Total Pages of the Project	**:**	40
Major Advisor	**:**	Dr. Krishan Kumar

ABSTRACT

The study was conducted to identify different issues related to production and marketing of apple in Kinnaur District. For the concerned study five Villages of Kalpa Block were purposively selected. A sample of 60 respondents was selected by using random sampling. A well-structured questionnaire was designed to collect data on various aspects of production and marketing of apple. The data analyzed with the help of SPSS software revealed that majority of the respondents were not able to achieve the actual value of the produce because of inadequate market information available for apple growers. The study also revealed that respondents were also facing the problem of transportation and storage of produce. Demonstration of grading standards and packaging techniques should be promoted and communicated among the growers. Companies in collaboration with Department of Horticulture should organize different awareness camps and seminars regarding apple production and technological advances in the field of horticulture. Pricing is the main motivating factor that affects the decision of farmers. Therefore, pricing strategy should be communicated well before harvesting.

Signature of Student
Name
Date

Signature of the Major Advisor
(Dr. Krishan Kumar)

Prof. & Head

BRIEF BIO-DATA

Name : Sayed Modaser Hashimi

Father's Name : Sayed Abdul Samad

Mother's Name : Bebi Aziza

Date of Birth : 16 January 1993

Permanent Address : Kabul, Afghanistan.

Academic Qualifications

	Month & Year	**School**	**Board / University**	**Marks (%)**	**Division**
10th Class					
12th Class	2012	Ghulam Haider khan high School		75.93%	
B. Sc Agriculture	2015	Kabul, University		6.25 CGPA	
MBA (ABM)	August (2021)	Dr. Yashwant Singh Parmar University of Horticulture & Forestry (Nauni) Solan	Dr. Yashwant Singh Parmar University of Horticulture & Forestry (Nauni) Solan		

Interpersonal Skills

- Strongly Cooperative
- Leadership quality
- Good Listener
- Adaptability