AGRICULTURAL LAND MARKETING PATTERN IN SOUTH-WESTERN REGION OF PUNJAB

Thesis

Submitted to the Punjab Agricultural University
in partial fulfillment of the requirements
for the degree of

MASTER OF SCIENCE
in
AGRICULTURAL ECONOMICS
(Minor Subject: Statistics)

By

Harsh Bansal
(L-2015-BS-200-M)

Department of Economics and Sociology
College of Basic Sciences and Humanities

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CERTIFICATE I

This is to certify that the thesis entitled, **"Agricultural land marketing pattern in South-western region of Punjab"** submitted for the degree of **M.Sc.** in the subject of **Agricultural Economics** (Minor subject: **Statistics)** of the Punjab Agricultural University, Ludhiana, is a bona fide research work carried out by **Harsh Bansal (L-2015-BS-200-M)** under my supervision and that no part of this thesis has been submitted for any other degree.

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

_____

(Dr. M.K. Sekhon)
Major Advisor
Senior Economist (Marketing)
Deptt. of Economics and Sociology
Punjab Agricultural University
Ludhiana-141 004 (India)

CERTIFICATE II

This is to certify that the thesis entitled, **"Agricultural land marketing pattern in South-western region of Punjab"** submitted by **Harsh Bansal (L-2015-BS-200-M)** to the Punjab Agricultural University, Ludhiana, in partial fulfillment of the requirements for the degree of **M.Sc.** in the subject of **Agricultural Economics** (Minor subject: **Statistics**) has been approved by the Student's Advisory Committee along with External Examiner after an oral examination on the same.

_____

(Dr. M.K. Sekhon)
Major Advisor

_____

(Dr. Ravinder Sharma)
External Examiner
Professor of Agricultural Economics
Department of Social Sciences
College of Forestry,
Dr. Y.S. Parmar University of Horticulture and Forestry
Nauni, Solan – 172230

_____

(Dr. Sukhpal Singh)
Head of the Department

_____

(Dr. Neelam Grewal)
Dean Postgraduate Studies

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ABSTRACT

The present study has been carried out with the objectives to study the pattern of sale/purchase of agricultural land, factors affecting land market and farmer's perception towards land market in south-western region of Punjab. The data pertained to year 2015-16. Two districts Fardikot and Bathinda were randomly selected. Out of these selected districts, four blocks and six villages from these blocks were selected. Land transactions regarding sale/purchase from year 2011-2015 were noted down from patwari circle. A total of 120 respondents were purposively selected, out of which 106 (88.33%) involved in sale/purchase transactions for purpose of farming and 14 (11.77%) were the farmers who purchase land for non-agricultural purposes. In order to achieve objectives, tabular and functional analyses were used. The proportion of farmers who sold land was highest among the small (26.67%) and semi-medium farmers (33.33%) and lowest among large farmers. The expenditure on debt payment, migration and social ceremonies was positively and significantly influence sale market. However, the proportion of farmers who purchased land was highest among medium farmers (39.13%) and lowest among marginal farmers (8.70%). The land was also transacted towards non-farming sectors by the farmers who work as colonizers, property dealers and commission agents. The factors like agricultural income and non-farm income had positively and significantly influenced land purchase market. Farmers demand from the land market included computerization of land records and licensed property dealers. To save the peasantry of Punjab, state intervention is required in creation of employment opportunities, providing credit facilities and health services at reasonable rates.

Keywords: Agricultural land market, land, transactions, sale, purchase.

Signature of Major Advisor **Signature of the Student**

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ਸਾਰ-ਅੰਸ਼

ਮੌਜੂਦਾ ਅਧਿਐਨ ਖੇਤੀਬਾੜੀ ਜ਼ਮੀਨ ਦੀ ਵਿਕਰੀ / ਖਰੀਦਣ ਦੇ ਮੰਤਵਾਂ, ਜ਼ਮੀਨ ਬਾਜ਼ਾਰ ਨੂੰ ਪ੍ਰਭਾਵਤ ਕਰਨ ਵਾਲੇ ਕਾਰਕ ਅਤੇ ਪੰਜਾਬ ਦੇ ਦੱਖਣ-ਪੱਛਮੀ ਖੇਤਰ ਵਿੱਚ ਕਿਸਾਨਾਂ ਦੀ ਇਸ ਬਾਜ਼ਾਰ ਪ੍ਰਤੀ ਧਾਰਨਾ ਦੇ ਉਦੇਸ਼ਾਂ ਨੂੰ ਮੁੱਖ ਰੱਖ ਕੇ ਕੀਤਾ ਗਿਆ ਹੈ| ਇਹ ਅੰਕੜੇ ਸਾਲ 2015-16 ਦੇ ਹਨ | ਦੋ ਜ਼ਿਲ੍ਹੇ ਫਰੀਦਕੋਟ ਅਤੇ ਬਠਿੰਡਾ ਮਰਜ਼ੀ ਨਾਲ ਚੁਣੇ ਗਏ ਸਨ, ਇਨ੍ਹਾਂ ਚੁਣੇ ਗਏ ਜ਼ਿਲਿਆਂ ਵਿੱਚੋਂ ਚਾਰ ਬਲਾਕ ਅਤੇ ਛੇ ਪਿੰਡ ਚੁਣੇ ਗਏ ਸਨ| ਪਟਵਾਰੀ ਸਰਕਲ ਤੋਂ ਸਾਲ 2011-2015 ਤੱਕ ਵਿਕਰੀ / ਖਰੀਦ ਨਾਲ ਸਬੰਧਤ ਭੂਮੀ ਲੈਣ-ਦੇਣ ਦੇ ਜ਼ਿਕਰ ਦੇ ਅੰਕੜੇ ਲਏ ਗਏ ਹਨ ਇਸ ਖੋਜ ਲਯੀ ਕੁੱਲ 120 ਉੱਤਰਦਾਤਾ ਦੀ ਯੋਜਨਾਬੱਧ ਢੰਗ ਨਾਲ ਚੋਣ ਕੀਤੀ ਗਈ, ਜਿਸ ਵਿੱਚੋਂ 106 (88.33%) ਖੇਤੀ ਦੇ ਮਕਸਦ ਲਈ ਵਿਕਰੀ / ਖਰੀਦਦਾਰੀ ਵਿੱਚ ਸ਼ਾਮਲ ਸਨ ਅਤੇ 14 (11.77%) ਕਿਸਾਨਾਂ ਨੇ ਗ਼ੈਰ ਖੇਤੀਬਾੜੀ ਮੰਤਵਾਂ ਲਈ ਜ਼ਮੀਨ ਖਰੀਦੀ| ਉਦੇਸ਼ਾਂ ਨੂੰ ਪ੍ਰਾਪਤ ਕਰਨ ਲਈ, ਅੰਕੜਾ ਵਿਗਿਆਨ ਦੇ ਹੋਰ ਸਾਧਨਾਂ ਦੀ ਵਰਤੋਂ ਕੀਤੀ ਗਈ| ਜ਼ਮੀਨ ਵੇਚਣ ਵਾਲਿਆਂ ਵਿੱਚ ਛੋਟੇ ਕਿਸਾਨ (26.67%) ਅਤੇ ਅਰਧ-ਮਾਧਿਅਮ ਕਿਸਾਨ (33.33%) ਦਾ ਅਨੁਪਾਤ ਸਭ ਤੋਂ ਵੱਧ ਸੀ ਅਤੇ ਵੱਡੇ ਕਿਸਾਨਾਂ ਦਾ ਅਨੁਪਾਤ ਸਭ ਤੋਂ ਘੱਟ| ਕਰਜ਼ੇ ਦੀ ਅਦਾਇਗੀ, ਵਿਦੇਸ਼ ਜਾਣ ਦੀ ਚਾਹਤ ਅਤੇ ਸਮਾਜਕ ਸਮਾਰੋਹਾਂ ਦੇ ਬੇਲੋੜੇ ਖਰਚੇ, ਸਕਾਰਾਤਮਕ ਅਤੇ ਮਹੱਤਵਪੂਰਨ ਵਿਕਰੀ ਬਾਜ਼ਾਰ ਨੂੰ ਪ੍ਰਭਾਵਤ ਕਰਦੇ ਹਨ| ਹਾਲਾਂਕਿ, ਜ਼ਮੀਨ ਖਰੀਦਣ ਲਯੀ ਕਿਸਾਨਾਂ ਦਾ ਅਨੁਪਾਤ ਇਸ ਤਰ੍ਹਾਂ ਸੀ, ਮੱਧ ਕਿਸਾਨ (39.13%) ਜ਼ਿਆਦਾਤਰ ਜ਼ਮੀਨ ਖਰੀਦਦੇ ਸਨ ਅਤੇ ਸੀਮਾਂਤ ਕਿਸਾਨ (8.70%) ਵਿੱਚ ਸਭ ਤੋਂ ਘੱਟ ਹੈ| ਪ੍ਰਾਇਵੇਟ ਕਲੋਨੀਆਂ, ਜਾਇਦਾਦ ਦੇ ਡੀਲਰਾਂ ਅਤੇ ਆੜ੍ਹਤੀਏ ਦੇ ਤੌਰ ਤੇ ਕੰਮ ਕਰ ਰਹੇ ਕਿਸਾਨਾਂ ਨੇ ਇਹ ਜ਼ਮੀਨ ਗੈਰ ਖੇਤੀਬਾੜੀ ਕੰਮਾਂ ਲਯੀ ਖਰੀਦੀ| ਜ਼ਮੀਨ ਖਰੀਦਾਰੀ ਬਾਜ਼ਾਰ ਉੱਤੇ ਖੇਤੀਬਾੜੀ ਆਮਦਨ ਅਤੇ ਗੈਰ-ਖੇਤੀ ਆਮਦਨ ਵਰਗੇ ਤੱਤ ਸਕਾਰਾਤਮਕ ਅਤੇ ਮਹੱਤਵਪੂਰਨ ਪ੍ਰਭਾਵ ਪਾਉਂਦੇ ਹਨ| ਜ਼ਮੀਨ ਬਾਜ਼ਾਰ ਤੋਂ ਕਿਸਾਨਾਂ ਦੀ ਮੰਗ ਇਹ ਹੈ ਕਿ ਭੂਮੀ ਰਿਕਾਰਡਾਂ ਦਾ ਕੰਪਿਊਟਰੀਕਰਨ ਕੀਤਾ ਜਾਵੇ ਅਤੇ ਲਾਇਸੈਂਸ ਜਾਇਦਾਦ ਡੀਲਰ ਹੀ ਸ਼ਾਮਲ ਹੋਣ | ਪੰਜਾਬ ਦੇ ਕਿਸਾਨਾਂ ਨੂੰ ਬਚਾਉਣ ਲਈ ਰੁਜ਼ਗਾਰ ਦੇ ਮੌਕੇ ਪੈਦਾ ਕਰਨੇ, ਕਰਜ਼ੇ ਦੀਆਂ ਸਹੂਲਤਾਂ ਅਤੇ ਸਿਹਤ ਸੇਵਾਵਾਂ ਮੁਹੱਈਆ ਕਰਵਾਉਣ ਲਈ ਰਾਜ ਦਖਲਅੰਦਾਜ਼ੀ ਜਰੂਰੀ ਹੈ|

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ਮੁੱਖ ਸਲਾਹਕਾਰ ਦੇ ਹਸਤਾਖਰ

ਵਿਦਿਆਰਥੀ ਦੇ ਹਸਤਾਖਰ

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INTRODUCTION

Land is one of the most important assets of a farmer, providing food for the family while surplus yield can be used to earn income. For many farmers, leasing of land is a fact of life. For those with no land or insufficient land for their needs, acquiring land through leasing goes a long way to determining their future security. For land owners, extra income can be acquired by leasing land to others in exchange for cash or a portion of the harvest. When drawing up lease, three factors play a key role. The length of the lease term, together with the security provided by tenancy; the degree of freedom and control given to the tenant; the flexibility and financial implication of this combination of length of the lease, security, freedom, and control.

A land market can be defined as the demand and supply function with relation to its price. A demand function is the relation between land demanded to its current price while supply function is the quantity of land supplied and price. This demand and supply of land would determine the equilibrium of land transacted in the land market.

Market transactions in farm land play an important role in the evolution of land ownership structure in the rural society. Land ownership pattern is influenced by several factors; the important among them are inheritance, sale policy and land transactions. A series of land reforms were taken in different states of the country after mid-fifties. Land market transaction is also influenced by the permanent transfer through sale and temporary through lease. Both these type of market transactions, namely sale and lease, affect patterns of ownership as well as utilization of agricultural lands. Studies on land market indicated a low turnover in sales and purchase market and high turnover in lease market. This low turnover led the sale-purchase market as inactive market and lease market as active market.

Land transferred through non-market channels like inheritance, gift, dowry, etc is influenced by demographic and sociological processes of the society. The impact of such non-market land transfers on land concentrations has been little explored, on the other hand, there is a widely held belief that market transfers of farm land lead to concentrations of land in capitalistic countries (Shergill, 1986). The level of land prices also has a significant bearing on the structure of market competition for farm land. Sellers of land can be classified into two groups (a) those who compelled to sell land to repay accumulated debts and demolish by economic circumstances. Mainly, marginal and small farmers are included in it. (b) Others are those who dispose of their owned land for converting their wealth into more profitable assets. In this category, large farmers and absentee landlords are included. Similarly, buyers can be categorized into two groups (a) those who purchase land strictly for commercial purposes, for

financial returns so that land ownership earn more assets as compared to other earning assets. (b) Those who use land some land in such a way their family labour get gainfully earning (Shergill, 1986). The relative weight of these groups determines the structure and complication of competition in the land market and its role in the evolution of ownership structure of farm land.

In agriculture, land is the basic factor of production and centre of all the farm activities. The land and labour together interact on land for the raising of farm crops and livestock. With the introduction of new farm technology and ushering in of green revolution in north-western parts of country, the pattern of agricultural production has changed very much. The high productivity growth forced the farmers to increase their farm size by purchasing or leasing more land. The level of land prices has a important role on the structure of market for farm land. The sellers of land can be classified in to two categories. Firstly, those who were ruined by economic circumstances and compelled to sell land for repayment of debts and secondly, who sold their entire land for converting their wealth in to more adventitious assets. The buyers were also classified as firstly, those who purchase land only for commercial considerations for the significant return that land ownership yields as compared to other earning assets and others were those who only purchase land for the gainfully using of their available family labour (Shergill, 1986). The increase in demand for land has led to increase the land rent and prices. The demand for land also increased due to fast growth of urbanization and industrialization. This increased sale-purchase and leasing of land has affected the different sections of the society. In a developing economy, people migrate to urban areas and adopted non-farm activities are unable to cultivate their own land, all of them willing to lease-out their land (Sharma, 2006). They would not sell their land due to their personal attachment and lack of social security. The medium and large farmers demanded more amount of land for leasing-in as they want to increase their scale of production and use of resources.

According to the national sample survey (NSS) 48th round (1991-92) on land holdings in Haryana shows highest area under tenancy, i.e. 37 per cent of total operated area as compared to 8.3 per cent at all India level (NSSO, 1997). At National level, in Haryana it increased from 18.2 per cent in 1981-82 to 33.7 per cent in 1991-92. This increase in area under tenancy was also accompanied with the number of related developments. The semi-feudal forms of tenancy prevalent earlier have under gone important changes with the penetration of new formed technology (Kumar and Chamola, 2000).

Over the past three decades, Indian agriculture has grown at an annual rate of about 3 per cent. However, the farm sector under stress, the growth rate is being decelerated to 2.7 per

cent per annum during 1995-96 to 2009-10 from 3.2 per cent per annum during 1980-81 to 1994-95 (Birthal *et al*, 2014). This shows Indian rural economy has undergone a very high shift towards non-farm sector with its share in rural income increasing from 35 per cent in 1980-81 to 62 per cent in 2004-05 (G O I, 2010). In a developing country like India, facing an ever increasing pressure on agricultural production due to population rise as well as economic development, both the sale and lease transactions in market for agricultural land are to be viewed with serious policy consequences. Such transactions may significantly affect the production and distribution patterns in agricultural sector. Socio-economic conditions of farmers largely influence their decisions regarding sale or lease land (Shergill 1985 and 1990; Chatha 1986; Birthal *et al* 1991). The regional diversities in agro-climatic factors, land use and socio-economic conditions through the heterogeneous vastness of the country, may prohibit any generalization on land market behavior (Krishnaji, 1991). The recent spurt in land sale and leased transactions calls for regional studies on such transactions, which may help in guiding desirable reorientations in land reforms and regulation on regional basis.

India has most restrictive and unorganized land sales and rental markets in the world. The restrictive land policy can be related to the historical socio-economic realities of the country. Historically, farmers sold out their land under distress conditions. Different state governments have implemented different types of land reforms. In some states like Karnataka, the leasing of land is not allowed whereas in Punjab and Haryana it is allowed. States like Uttar Pradesh and Bihar it allowed under some terms and conditions. In India the land sale market was small as compared to rental market. Under the restrictive land sales market in India, the transactions costs for buying land are very high. Government imposed certain type of stamp duties which further increase the transaction cost (Awasthi, 2009).

In India land is considered as the social and economic symbol of the farmers so half of our population lives on small farms. The way in which access to land can be obtained and its ownership is documented, is at the core of livelihood of a large majority is poor. Land is distributed unequally among the rural households, most of the households are either landless, or do not have enough land for cultivation. The landless, marginal and small farmers, lease-in land for improving their economic conditions, some medium and large farmers also lease-in land for proper utilization of their fixed resources. This lease-in land market helps to increase the agricultural production, better utilization land and labor. It will increase the occupational skill of rural workers and reduces the pressure on land.

In India, the land reform programme is concentrated mainly on abolition of intermediaries, security of tenancy, and regulation of rents and redistribution of surplus land beyond ceiling among the landless. The transfer of agricultural land to non-agricultural uses

could never be thought as serious problem in long term supply of resources to agricultural production system until now. The forces leading to decrease in total availability of agricultural land in the country i.e. the reduction of viable agricultural holdings into non-viable due to inheritance, land sale and also land lease etc (Mani and Pandey, 2000). The land transactions are usually determined by the use of land either for productive purpose, a place for housing, financial investment or a source of liquidity. The local market transactions, either land sale or lease transaction which are determined by demand and supply pressure within given constraints and influence of legal conditions. The post-land reform period has witnessed a significant shift in the ownership of land from those who have interest in agriculture for their survival to those who has no interest in this occupation and this occurs mainly due to breakdown of joint families as a result survival of marginal and small farmers become difficult (Nair and Menon, 2006).

The new farm technology has many implications for contractual arrangements in land and labour markets, productivity and pattern of resource use. The extent of landlessness and inequality in land ownership has not changed much and the incidence of tenancy has declined (Vaidyanathan, 1994). In agriculturally progressive states such as Punjab and Haryana there was sizeable decline size of ownership holdings and the area owned by bigger size-groups, thus swelling up the number of small and marginal farmers (Grewal and Rangi, 1981). The small farmers rent in land and the practice of renting land, in general is decreasing over time (Rai *et al*, 1981). The marginal and small farmers had lost a major share of their holdings in the process of land transactions (Sarap, 1995). Land is one of the important sources of income, a social symbol of status and prestige and has very high collateral value for poor farm families. Due to the law of inheritance in India, the land is fragmented in to small holdings; it becomes uneconomic and non-viable for cultivation. For all the farmers there are only three options left i.e. sell the land, rent it out, or lease land from others.

Punjab is considered as one of the best state of India due to its achievements in Agriculture development. The state has experienced a tremendous increase in agricultural production during the period of Green Revolution mainly due to mixing of institutional and technological factors. Punjab has 1.54 per cent of the geographical area of country and now contributes the 13 to 14 per cent of the total grain production. After Green Revolution, Punjab showed a signs of stagnation. The emerging scene of Punjab agriculture is not free from some serious problems. Law of inheritance, increasing cost of cultivation, depletion of water level and insect-pest attack are also posing the major threat to agriculture and sustainability in long-run.

The number of total operational holdings in Punjab increased from 10.03 lakh in 2005 to 10.58 lakh in 2011. Over this period, the average size of holding decreases from 3.95 ha to 3.78 ha (State Agricultural Punjab, 2011). Leasing of land had been vague since long but its magnitude varied over time. The changes in production and productivity pattern had affected the land lease pattern agreements. During the Green Revolution period Punjab experienced a technological change, which resulted in a vital change in productivity of resources. But over the past decade, Punjab is not considered prosperous as compared to other states due to downfall in its economy. This downfall occurs due to stagnant productivity, high cost of production, less per capita income and indebtedness. The main cause of agrarian crisis is small and marginal farmers who find it difficult to survive and pushed out from agriculture sector. This shows that there is a decline in the number of cultivators and shifting towards the non-farm activities (Singh *et al* 2009). The process of shifting farmers from agriculture to non-farm activities for their survival is known as depeasantization.

With the ever rising population and disguised unemployment in agriculture, the land labour ratio is declining more rapidly than rise in land and labour productivity (Mani and Pandey, 1997). In our country, the marginal holdings are increasing and the average size of holding is declining. However, this trend is reverse in Punjab. The number of marginal and small operational holdings was about five lakh during 1991, which declined to about 3.59 lakh during 2010-11 (Sharma *et al,* 2014). This shows that about 1.41 lakh marginal and small farmer have left farming. Out of these farmers 36 per cent sold their whole land, 12 per cent sold some part of their land and remaining 52 leased in/out their entire land. They are forced to sell/lease out their land primarily due to an increase in the cost of production, declining water table, falling returns and increasing uncertainty on account of erratic weather condition. In such a situation, it is very important to study various issues of land transaction in rural area of Punjab. In such a situation land sales and land lease market requires critical importance for study.

So, the study was conducted in South-Western region of Punjab to find out the present pattern of rural land transactions. The objectives of the study were:

i. To estimate the extent of agricultural land sale and purchase among different farm size categories.

ii. To estimate the determinants of land sale market in the study area.

iii. To study the terms and conditions of agricultural land transactions and farmer perceptions about agricultural land market.

CHAPTER - II

REVIEW OF LITERATURE

In accordance with the objectives of the study, the available literature is reviewed as under:

Marothia (1976) in his study on land ownership in seven villages of Madhya Pradesh concluded that the share of owned area to the operated area was more than 85 per cent on the sample farm. Nearly 66 per cent of the farmers owned their entire operated area and more than 22 per cent of farmers improved their owned holdings by leasing-in further land on share cropping basis. The proportion of farmers who leased-in land on cash payment was 11.76 per cent in the medium size and 7.14 per cent in large groups. The share of farmers leasing-out was 5.75 per cent.

Grewal and Rangi (1981) on the basis of micro level study in Ludhiana district of Punjab made critical observation on the status of lessors and lessees. It was concluded that none of the marginal and small operators leased-in land. Larger operators (above 25 acre) covered 46 per cent of the total leased-in area followed by those operating 5-10 acre who command 22.5 per cent of it. The share of leased-in to total operated area at these farmers was 25.9 per cent and 27.2 per cent respectively. On the contrary, majority of the lessors were small owners (up to 10 acre) providing 59.56 per cent of the total leased-out land. Those owing 10 to 20 acre did not lease out at all. They also noticed that cash renting was more prevalent than share renting.

Saikia *et al* (1981) in their study on changes in the pattern of land holding and infrastructural services of agriculture in Assam accomplished that marginal and small farmers could not make their farms economically viable because of their poor investment capacity. They leased-out their land and become casual labourers. Share tenancy consisted of 50 per cent share, plus free services rendered by the share cropper.

Shergill (1985) examined the fate of a peasant farm in market competition for land and the struggle for economic survival. Small peasant farms are not able to survive the competition given by big farms. Fluctuations in farm output and farm prices, traditional tools and methods of production and the total inefficiency and susceptibility of a small production enterprise combined with the excessive pressure of family consumption needs ruin the small peasant farms leading to land sales. Big farms, on the other hand, are able to take advantage of superior technology, cheaper credit, marketing facilities and are thus able to collect wealth and expand their owned land base via land purchases. Their money lending activities and political influence are also supposed to help big farms in the process of wealth accumulation and land purchases.

Shankar (1988) in his study of Uttar Pradesh revealed that the large portion of land was sold by marginal and small farmers and become landless. But the major portion of land was bought by large farmers. Study also concluded that the reasons for land transfer were social ceremonies, education, purchase of other land, migration to urban areas, house construction and other family needs.

Shergill (1990) considered land market transactions and expansion/contraction of owned areas of cultivating farming families in Punjab. There are some factors that affect the expansion and contraction of owned land of farming families by land market transactions. The effect of these land market transactions on the distribution of farm land among cultivating peasant household is also analyzed. Per capita income, number of male adults in family, financial position, money lending and early adoption of new technology influenced the land market transactions positively, addition of family males to wine/opium and larger size of owned area at birth effect the land market transactions negatively.

Birthal and Singh (1991) had analyzed land lease market and resource adjustment in agricultural development. It was found that regulation mechanism was important in selected regions in spite of the differences in their level of development. However, the adjustment was relatively difficult in the progressive regions. There were considerable variations in the inter-regional performance of the model-it performed well in the background region where opportunities for employment were uncertain and limited, infrastructure was under-developed and technology adoption was poor. It was noted that managerial skill emerged as one of the most important factor in the determination of desired cultivated area particularly in the progressive region. It was concluded that inter-regional differences in the relative importance of factors influencing the operation of lease market arose mainly on the account of differences in the structure of factor markets, levels of agricultural development and region-specific institutions.

Chand and Tiwari (1991) revealed that the factors affecting land market transactions and its impact on size distribution of holdings in a hill region. The study was conducted in Solan district of Himachal Pradesh. It was observed that the buyers of land had two to three times higher inherited land, value of wealth, off-farm income and farm income as compared to the sellers of land. The percentage of literacy was also higher among the head of the buyer's household. The sellers had to sell land largely to repay debt, to meet social; obligations and to construct houses. The land transactions led to an increase in the share of large farmers in the total land at the cost of upper middle farm size class.

Chatha *et al* (1991) examined the agricultural land market in Punjab. Demand for agricultural land in the Punjab was increased due to introduction of modern technology and

consequent increase in productivity. The study observed that all categories of farmers irrespective of their farm size, entered in to the lease market. Both the large and the small farmers were lessees as well as lessors. The leased area per lease was found to have a positive relationship with farm size. The proportion of land leased in was positively correlated with the ownership of tractors. It was found that only about 15 per cent of the owned area was exchanged during 1981 to 1990 and it did not exceed 3 per cent in any single year. The study further revealed that the small farmers had purchased relatively a larger proportion of their owned area. Only a nominal proportion of land was involved in the mortgage transaction mainly due to the fast declining money value, increasing availability of alternative source of credit and higher expenditure on a registration of deeds, etc. During the period 1981 to 1990, 11 out of 166 farmers were mortgaged about 2 per cent of their owned area.

Dadibhavi and Somannavar (1991) analyzed the trends in land sale and land prices in Belagaum district of Karnataka state. The study examined whether the market transfer of land led to polarization or equalization. The study revealed that in the eight villages, 3325 acre of land were sold to 2186 persons through market transactions over the course of 30 years. Land prices showed a significant upward trend in the pre-green revolution and post-green revolution periods. The area sold showed a significant but negative trend during the post-green revolution period as against a Positive trend in the pre-green revolution period. The land prices (registered in sale deed) continuously soared even by the registered prices, despite under reporting. There was no significant change in the growth of land prices in the post-green revolution period. The study further revealed that of the three size groups (marginal, small and large) of cultivating owners, the group of marginal owners alone made net gains of land via market transactions. It was concluded that land transactions of the sample farms in Belgaum taluka had not resulted in greater inequality in the distribution of land among cultivating owner households.

Panda and Kar (1991) attempted to highlight the position of land transactions and analyzed the impact of such transactions on different categories of farm households under urban and rural locations. The study revealed that land transactions (both in terms of number and area) were higher with urban farm household than those with rural farm household. The sale of land was more common with the farmers than purchase of land in both the locations. Between the locations, the urban farm household suffered a higher loss of land than their rural counterparts as the sale of land was more with the former than that with the latter. Among the different size groups, sale of land was inversely related with the size of holding. The rise in price of land and high rate of return on non land investment were the factors responsible for sale of land in the urban location. But in the rural farm households, the non-viability of land

to meet the consumption requirements and ceremonial expenditures had resulted in frequent sale of land.

Rai *et al* (1991) studied the land market transactions and their impact on the distribution of land in farm families in Haryana. Effort had been made to study the important factors which influenced the expansion and contraction of owned land of peasant families through land market transactions. It was concluded that the change in owned area of peasant families was significantly influenced by the area owned at the time of formation of an independent unit, number of adult male members, mortgaged in land, per capita income and adoption of new crop production technology and was negatively influenced by addiction of liquor. Land market transactions resulted in net transfer of land to cultivating households from non-cultivating households. The study revealed the widening of inequality in land distribution among peasant households.

Ray (1991) revealed that factors which play an important role in land markets of West Bengal. The study concluded that the prices of sold out land were higher in Hooghly than in Naida district on account of its better conditions of income and employment position. The prices of both irrigated and un-irrigated land were lower on small farms as compared to their counterparts. The study further showed that mortgaging of land was a common practice in the study areas, particularly among small farmers. The price of land was positively and significantly influenced not only by the area of land owned by a farmer, but also by his non-farm income and tendency to early adoption of new technology. In the determination of land prices, the number of adult family members and education had no direct influence on the land prices but it operated probably via inducting early adoption of new technology and generating higher per capita income from farm and non-farm sources.

Nadkarni (1992) conducted a study in Punjab on land market and concluded that change in area owned by peasant families through land transactions was positively influenced by per capita income, number of adult males, old debts and adoption of new technology. Study further concluded that land transactions were negatively influenced by drug addiction of family members.

Birthal and Singh (1994) analyzed agrarian structure of technologically backward and progressive regions provide some common and contrasting explanations for spatial differences in the form of contracts in Eastern Uttar Pradesh. The workers in the progressive region select the contract according to their abilities: those with greater abilities select fixed rental contracts and the others with fewer abilities select share contracts. However, the process is just the reverse in the backward region. Absentee landlordism is mainly prevalent among small holders of land who do not possess any advantage over the tenants in access to

information and supervisory abilities. The residents leased out their land to those having better resource base and easy access to information. The big resident landlords, who have better access to information, sharecrop their land with the landless and small and marginal farmers who generally lack in managerial skills; and those who are relatively inexpert at supervision and management prefer fixed rental contracts. The big land owners possessing both managerial and supervisory skills fixed wage contracts over others. The lease market operates in an environment of trust and confidence between the contracting parties.

Kushwaha and Maurya (1994) revealed the agriculture land transfer to non-agriculture sector by considering the caste system in Ghazipur district of Uttar Pradesh. The study categorized all the respondents into three categories i.e. upper, middle and lower class. The study concluded that not only high caste farmers had adopted the non-farm business and transferred their land to non-farm sector but also they have adopted the agricultural production activities with the evolution of new technology.

Mani and Gandhi (1994) studied the effect of permanent land transfers through land sale/purchase and temporary land transfers through land lease, on the distribution of land. The study showed that land market transactions both for sale and lease of land are very frequent and common in the agriculturally progressive district of Meerut of Western Uttar Pradesh. It is concluded that the marginal farmers contributed much less than their proportion and medium farmers contributing more than their proportion. Yet, the marginal farmers contribute over one-fourth of the purchases. There is some increase in the landless category, some of which could be due to distress sales. The marginal and small farmers contributed to the bulk of transactions, both on demand side and supply side. The major impact of these transactions is that they result in a sharp reduction in the marginal farms, and a large increase in the small farms.

Mohapatra (1994) concluded that the practices of tenancy cultivation cannot be stopped from practical point of view. It should, however, be feasible to eliminate the interlocking elements by strengthening the process of social networks and infrastructures for agriculture. Although the concept of 'exploitation' of tenants has its real implication in the land-lease interlocking in Orissa agriculture, yet its adversities on tenants' productions and incomes are not very clearly discernible in our study. The economic status of tenant cultivators can be improved by providing them adequate irrigation facilities along with regulated tenancy operations.

Marothia *et al* (1995) studied the trends in land sales and land prices to determine the magnitude of land transactions of Dharsiwa block of Raipur district of Madhya Pradesh. Study concluded that social ceremonies, repayment of old debts, house construction, drought

and sending children abroad were the major factors that affects the land transactions and land prices.

Sharma *et al* (1995) revealed that the land lease market in the sample villages of Orissa is featured by high incidence of tenancy, especially in the irrigated villages. In spite of that, the institution of tenancy does not appear to have any adverse effect on the use of modern and traditional inputs and level of output both in agriculturally developed and backward regions and also in irrigated and un-irrigated villages. While tenants were more efficient in the un-irrigated villages, there was no significant difference in the allocative and productive efficiency of tenant operated farms and self-operated farms in the irrigated villages. However, there is an opposing evidence to show that both the regions and types of villages, share tenancy is disincentive and act as barrier to the use of modern and traditional inputs, thereby hindering the process of agriculture development.

Mani and Pandey (1998) concluded that the sale as well as lease transactions of agricultural land affect both the distributional and production pattern which had serious policy consequences in a developing economy. The study identified the socio-economic characters which influenced the land sale or lease decisions of farmers in highly fertile and developed regions of India. The study found that with an increase in size of holding, the farmers showed greater probability to (i) By more land in the sale market, and (ii) lease-out land in the lease market. The farmer tendency leads to dispossession of small holders and, consequently, adverse effects on distribution of land and production of subsistence crops needed for the growing population, while the later tendency offsets these adverse effects through favorable redistribution at least of the operated area as generally small holders lease-in land in the region to optimize their family labour and financial resources. It is argued that leasing of agricultural land be accorded fully recognized legal status with some regulatory controls.

Goyal and Pandey (2000) made an attempt to study the structural changes in the ownership holdings and the operational holdings over time and to analyze the temporal changes in the land lease activity in Haryana state. The required information on various aspects of ownership holdings, operational holdings, and land lease activities was collected from national sample survey (NSS) and *Statistical Abstract of Haryana.* It was found that holdings above four ha accounted for nine per cent of total ownership holdings and these occupied that 40 per cent of the total land area whereas holdings below two ha accounted for more than 70 per cent of total holdings which accounted for 20 per cent of total area. Similarly, about 18 per cent of operational holdings above four ha accounted for about half of the total operated area, whereas about 60 per cent operational holdings below two ha shared only about 20 per cent of total operated area. Land lease activities had increased over time.

The percentage of the area leased-in to total area owned had increased from 19 per cent in 1982 to 41 per cent in 1992. The highest percentage of household who reported leasing-out land was the medium household 32 per cent, whereas leasing-in of land was reported was to be the highest (72 per cent) among the marginal farmers. Suitable legislation was needed for making the leasing out land easy without any risk to loss of land by the owners.

Khodaskar (2000) examined the changes in land lease market in Pune district of Maharashtra. The reference period of the study was 1999-2000. The distribution of rented-in land by size-class of operational holding showed that the small farmers and marginal farmers had the largest share, accounting for nearly 80 per cent. The rest was mainly by the middle size-group of farmers. It is further revealed that the proportion of leased-in land to the total operated land was 40 per cent, 20 per cent and 16 per cent among the marginal farmers, small farmers and middle farmers respectively. In the rabi season the leased-out area formed 14.53 per cent of the total. The large size-class accounted for 60 per cent of the total leased-out land. The share of middle size class was 40 per cent.

Mani and Pandey (2000) conducted a study on land market in Western Uttar Pradesh and observed that transfer of good quality agricultural lands having high revenue grade to non-agricultural purposes is indicative of its adverse consequences to agricultural production and productivity, particularly in view of rising population and constancy of net cultivated area. Some countries have resorted to a policy of agricultural zoning which seems to be quite relevant in Indian context also especially in those areas having high agricultural productivity. Distributing cultivable land to landless cultivators can also be an appropriate step in order to reduce some extent of pressure of growing population on agricultural land. Price is usually regarded as a major policy variable in influencing the market transactions. But in the present study of land markets in Meerut district of Western Uttar Pradesh, both land sale prices and land lease rents are not found to be significant in influencing the sale/lease transactions excepting a significant tilt of conversion of agricultural land toward non-agricultural purposes for industries, housing. In the policy measures such as provision of distress loan on land mortgage, economically viable size of holding and minimum ceiling limits on holding, regulation of tenancy and agricultural zoning, all fall in the category of administrative measures.

Pant *et al* (2000) studied the extent of contractual arrangement of land in different agro-climatic regions of Rajasthan, to assess as to how the social factors influenced such arrangement and also to identify various systems of arrangements prevalent across the regions including the factors attributable to such arrangements. Detailed information in the selected villages was collected from those who either leased-in or leased-out land. The study revealed

that in Rajasthan 2.51 per cent of the cultivators leased-out their land while 2.61 per cent leased-in land. About 34 per cent of the respondents who leased-in land and about 71 per cent of respondents who leased-out land belonged to the general category. Two-thirds of the total respondents who leased-in land were landless, marginal and small farmers and the remaining were medium and large farmers. About 13 per cent of the total respondents leased-in land on cash payment basis and the remaining on the crop share basis. The leasing-in land on cash basis was found in all the zones except in zone VII. In all the zones the share in input of the majority of the respondent was either full or half. However, in zone II about 17 per cent of the respondents share in inputs was one-fourth and in zone III, V and VII about one to seven per cent of the respondents had no share in the inputs used to grow the crops in leased-in land. Those respondents who leased-in land on fixed money basis had taken full share of output while those who leased-in land on crop-sharing basis received one-fourth to two-thirds of the total output from the leased-in land.

Innes (2003) studied the design of farm policy in the presence of asymmetric information about farmer's productivity, a government objective to insure farmers a minimum "parity" income, an endogenous land rent, and diminishing returns on alternative land uses. In this setting, acreage set asides are never part of an optimal farm policy, although compensated acreage limits are. When there are new farmer who cannot be excluded from farm programs, optimal policy takes a form of a pure voluntary acreage limitation-or "buyout"-program in which high cost producers participates and low cost do not.

Singh *et al* (2004) conducted a study to examine the land rent and land prices in post green revolution period of Punjab agriculture. The analysis revealed that overtime from 1970-71 to 1997-98, the average productivity, land rent and land prices have been increased significantly in different regions as well as in state as whole. The average productivity in the state increased relatively at high rate during 1970-71 to 1981-82 as compared to other study periods. Whereas the rate of increase in land rent was maximum in the middle period/ i.e. 1981-82 to 1990-91. The land prices increased more sharply during the later period. From 1990-91 to 1997-98. The regional variation in the land rent and land prices can be attributed to the crop mix, productivity and size distribution of holdings in the respective region of the state.

Shagaida (2005) studied agricultural land market in Russia. The study observed that as with official sources there was absolutely no information on the terms of land transactions, on the composition of buyers and sellers, or on supply and demand, the required data were obtained through specially designed questionnaire-based surveys. The surveys were carried out in three regions that differed by the level of agricultural development and by natural

conditions (Rostov, Ivanovo and Nizhnii Novgorod Oblasts). The surveys covered producers of three basic organizational forms- farm enterprises (a corporate form of organization), peasant farms and household plots (individual forms of organization). The survey showed that leasing of land was wide spread among farm enterprises and peasant farms, the share of leased land was wide spread among farm enterprises and peasant farms, the share of leased land was on average 60 per cent of the total area of agricultural land used, but this leased land originates from different sources. In farm enterprises, three quarters of leased land was in the form of land shares that the farm leases from individual owners, and only one-quarter was leased as land plots. Peasant farms, on the other hand, tend to lease and land plots to a greater extent (more than 40% of their total leased land). In all of Russia, about five per cent of agricultural land participated annually in market transactions. The survey showed similar results. Respondents in 553 farms of various organizational forms in three regions reported 86 land transactions during one year.

Nair and Menon (2006) conducted a study in different parts of Kerala and revealed that the prevalence of tenancy reported in these studies are much than the situation revealed by large scale surveys. Tenancy arrangements are confined to seasonal and annual crops like banana, vegetables, ginger, pineapple etc. It is found largely in paddy lands and to a limited extent in garden lands. While agricultural labourers and marginal farmers are numerically dominant in tenant farming, there exist the participation of larger land holders and persons with non-agricultural activity who takes up this as a commercial proposition. The terms of leasing are characterized by fixed rent paid in one or two installments with the normal duration of lease for one crop year. The prevailing rent rates for cash crop cultivation are high, the tenants have realized reasonable returns from the lease cultivation.

Sharma (2006) examined liberalizing the lease market. The review of the enactment and implementation of the tenancy laws in different states showed that the fair rent has been fixed much above the recommended levels. The ejectment of tenants from their land holdings was permitted on many pretexts and the provision for conferment of ownership rights on the tenants on non-resumable lands has been for from real. The tenants were allowed to surrender land voluntarily and the definition of personal cultivation did not include physical labour as was recommended by panel on land reforms in 1956. The tenancy laws enacted and implemented in different states aimed providing security of tenure, fixing fair rent ranging from one-fourth to one-fifth of the gross produce and allowing land owners to resume land for self-cultivation up to limited areas. It was further provided that on non-resumable land, the landlord's tenant nexus should end and tenants in these areas to be brought into direct contract with state.

World Bank (2007) examined land policies for growth and poverty reduction in India. The participation in, and activity of rental market has declined sharply since the early 1970s in India. The households leasing-in land has declined their share from about 26 per cent to less than 12 per cent. The declined in land market participation has been particularly noticed in Punjab (from 53% to 15%), Bihar (from 40% to less than 10%), Haryana, West Bengal, Orissa and Uttar Pradesh. The main reduction in participation concerned with a strong emphasis on implementation of land reform legislation in the decade of 1970s, land rental market activity continue to decrease, though at a slower rate, through-out the 1980s and 1990s. As a result, land poor households were either enable to access land through rental markets or have to do so under informality, implied that they lacked recognition and all the benefits from access to institutional sources of credit, controlled rental rates and protection against eviction, that come with it.

Patil and Marothia (2009) conducted a study in Raipur district of Chhattisgarh and revealed that large farmers have been the maximum sellers across different size-groups of farmers. High prices of land followed by sale and purchase of land for earning maximum profit have been found the main governing factors for buying and selling of land. Location of land transactions have been an important factor for non-agricultural uses than agricultural purpose. Total owned land of sellers and price of land have two important determinants of supply relations in land sale market. The total owned land of buyers and their non-farm income have been the major determinants. Also, the distance from national highway, revenue grades and sold land under distress were important factors. It is concluded that the area of land and prices for sale increased year after year. In view of the wide gap between registered price of land provided by office of the village land record/office of the district land record, Raipur, and the actual price paid by the respondents, it is difficult to access the behavior of farm land market transactions.

Singh *et al* (2009) have examined agrarian crisis and depeasantisation in Punjab state. The process of depeasantisation in Punjab began in early 1990's and gathered momentum since 2000. More than 2 lakh small/marginal famers have left farming due to economic distress. Not only the small and marginal farmers left farming but also the large farmers left due to different reasons and things because of their better existing economic base. They were the ones who got pulled out from farming in contrast to 36 per cent of their smaller counterparts.

Kaur and Singh (2011) studied that land market transaction was influenced by permanent transfer through sale and temporary transfer through lease. It was concluded that

among leases and lessors, the number of small farmers was the highest followed by the marginal farmers, semi-medium and medium farmers. The study revealed that small and marginal farmers were the main players in the land lease market. Contrary to general perception of leasing out land due to economies of scale and higher land rent, the main reason for leasing-out land in the study area were joining service, emigration and unavailability of irrigation facilities.

Singh *et al* (2012) concluded that the average size of the operational holding for the state as a whole was 3.70 hectares. However, it was 2.67 hectare for zone I, 3.66 ha for zone II and 4.09 ha for zone III. The leased-in component constituted only 19.77 per cent of operational holding in the state. The extent of leased-in land was highest in zone III. The major share of the operational holding in the state was of the owned land (82.04 per cent). The distribution of operational land holding was highly skewed as lowest 10 per cent farming families have 1.84 per cent of the operational area and upper 10 per cent have 30.29 per cent of the operational area of the state. This shows that land is concentrated among few hands. For meeting the desired objective of the sustainable growth in agriculture, and for initiating the new model of agriculture development, the issue of distribution of land holds prime importance. This issue can be addressed either through cooperative farming or through state farming or through effective land reforms.

Amare (2013) Land market developments and household access to land through land rental markets are important for the majority of Ethiopian people who, in one way or the other, depends on agricultural production for their income and subsistence. The objective of this study is to empirically examine factors affecting participation and intensity of participation in land rental markets in the Amigna district. Determinants of land rental market in the district were studied based on a survey of 88 sample household heads selected using probability-proportional-to-sample-size technique from four peasant associations (PAs) purposively selected followed by multi-stage random sampling. Around 60 per cent of the households surveyed did not participate in the rent-in market, while 40 per cent rented in land. Result of the Tobit model indicates landholding size, and age of the household heads is important variables which had an inverse and significant influence on participation and intensity of participation in land renting-in market. The result further revealed that access to rental land is tightening to farmers with no access to credit, less oxen ownership, and older households. Some of the farmers are excluded from the rental markets because of these entry requirements. The overall finding of the study revealed that credit market imperfection remains an important issue impeding the smooth functioning of a dynamic land rental market.

Therefore, policy attention should focus on issues which impede performance of rental market to contribute to further efficiency and equity improvement vis-à-vis institutional support systems such as facilitating micro-finance institutions; strengthening infrastructural development so as to enhance well functioning dynamic land rental markets in the district.

Govindaprasad and Manikandan (2016) conducted a study in three villages of Dindigul district of Tamil Nadu revealed that the tendency to sell agricultural land is more among low income groups and illiterate farmers. The agricultural land conversion has lowered the status of most farmers in to landless and marginal farmers in the study villages. In the developing countries, converting farm lands for non-agricultural purposes is increasingly taking place. India recorded 1.6 million hectares of decline in farm land mostly converted for non-agricultural purposes during 2001-02 to 2010-11. Tamil Nadu recorded highest decline about 7350 hectares of land during 1990-93 to 2005-06. This shows that one acre of farm land conversion results in loss of 1.07 tonnes of output per annum which has serious implication on food security.

Naseer *et al* (2016) studied about current status and key trends in agricultural land holdings and distributions in Punjab, Pakistan. They studied temporal structural changes in land holdings using inter census data 1960-2010. It was found that the equality in land distribution has been decreases due to land reforms. Other findings of the study were that land distributions in highly inequitable and large farmers were having greater share of it. On the other hand small farmers on their small piece of land used farm resources more efficiently. The authors suggested that equitable land allocation leads to economic growth, poverty reduction and food security.

This chapter is devoted to the review of literature on investigation published earlier which employed an analytical approach that could be adopted in achieving the objectives of the study. The foregoing review of the relevant studies conducted on different categories of farmers i.e. marginal, small, semi-medium, medium and large throws light on the different aspects of agricultural land market. Various studies carried out by different scholars in India concentrates on the issues that the good quality agricultural lands having high revenue grade transfers to non-agricultural purposes is the indication of decreasing agricultural productivity and production. Researchers also concluded that the marginal and small farmers through land sales in progressive area shift to non-farming sectors. Land sales may also caused by sub-division and fragmentation of agricultural holdings. The economic factors like distress conditions, loan repayment problem, family needs, and family pressure on land were the factors reported for land sale. The financial condition of farmers also forced them to sale their

fertile land as their economic base is poor and due to technological and capital change in agriculture. Land sales may prove burden on the economy in long run, unless serious efforts would made to make farming viable and more profitable. There is a need to look into the sale purchase pattern.

CHAPTER – III

MATERIALS AND METHODS

This chapter represents the methodological framework adopted for the research. It is the systematic way to solve any problem. It explains the step adopted in the specific pattern and the logic behind it. To achieve the objectives, the details of study for selection of area, data collection and statistical tools used to analyze data have been explained in this chapter. The methodological framework adopted to carry out the research work has been explained under the following headings:

3.1 Selection of area

The study was conducted in the South-western region of Punjab. Punjab is located at the north-west of India with an area of 50362 km^2. The South-Western zone is also known as the cotton belt of Punjab includes Bathinda, Ferozepur, Fazilka, Sri Muktsar Sahib, Mansa, Faridkot, Sangrur and Barnala districts.

3.2 Sampling frame

For this purpose, multistage random sampling technique was used. Districts as first stage unit, blocks at second stage unit, villages at third stage units and respondents from selected villages at last stage units were selected.

3.3 Selection of blocks

For the purpose of data collection, multistage random sampling technique was used to draw a representative sample. At the first stage, two (sampling units) districts namely Bathinda and Faridkot were randomly selected from the south-western region of Punjab. From these selected districts list of block was obtained and two blocks from selected districts were selected randomly. At the third stage, six villages from these four blocks were selected. The detail of selected blocks and villages was presented in Table 3.3.

Table 3.3: List of the blocks and villages from selected districts

District	Total blocks	Selected blocks	Selected villages
Faridkot	Faridkot	Kotkapura	Deviwala
	Kotkapura		Sibiaa
	Jaitu	Jaitu	Dhaipai
Bathinda	Bathinda	Phul	Gummti kalan
	Sangat		
	Nathana		
	Rampura		Selbrah
	Phul		
	Balianwali		
	Maur	Maur	Maur kalan
	Bhagta bhaika		
	Talwandi sabo		
Total	12	4	6

3.4 Selection of respondents

The selections of farmers were done to analyze the pattern of land market transactions in the study area. For this purpose, first the list of land transactions was obtained from patwari circle for the last five years. From the list, 120 respondents were selected purposively for the data collection both who have sold or purchased the land. Out of the 120 respondents, 39 were involved in sale market, 43 in purchase market and 38 both in land sale-purchase or lease in-out market. At the final stage, from each selected village twenty farmers were selected for making total of 120 respondents.

The operational holding of the selected respondents were classified according to standard classification given by government of Punjab.

Table 3.4: Number of sampled respondents according to different farm size categories

Farm size categories	Number of farmers	Percentage of farmers
Marginal (< 2.5 acre)	17	14.17
Small (2.5 – 5.00 acre)	31	25.83
Semi-medium (5.00 – 10.00 acre)	35	29.17
Medium (10.00 – 25.00 acre)	32	26.66
Large (> 25 acre)	5	4.17
Total	120	100.00

3.5 Collection of data

The study was mainly based on the primary data. Personal interview method was followed for collection of data with the head of the family. A comprehensive schedule was prepared for the collection of information from the respondents keeping in view the objectives of the study. Before the data collection, pre testing of the interview schedule was done. The undesirable questions, difficult language and words were deleted from the schedule. The questions which came in mind during pre-testing were included in the final schedule. The information regarding age, education, family size, land rent, land price, income pattern, cropping pattern, input, output quantity, owned land, operational land, sale-purchase of land, leased in-out land and the reasons for sale purchase of land was collected.

3.6 Analysis of data

The data were computerized for further processing and analysis. Descriptive statistics like frequencies, percentages, averages and range were used, while other statistical tools like Gini coefficient, linear regression model and correlation were also used for data analysis.

3.6.1 Various concepts used in the study

Gross returns

Gross returns were calculated by multiplying the total production and price received by the farmer either at farm level or market level. Production includes main product as well as by product.

Variable cost

The sum of all costs incurred on seed, fertilizer and manures, plant protection measures, irrigation, farm machinery, hired labour along with miscellaneous costs and interest on working capital constituted the production costs.

Returns over variable costs

Returns over variable costs were calculated by deducting the expenses incurred on production of different crops from their gross returns.

3.6.2 Gini coefficient

The Gini coefficient is a measure of inequality of distribution. Its value ranges between 0 and 1. Where, 0 indicates to perfect land equality (which means everyone has land) and 1 indicates perfect land inequality (which means one person has all land, while everyone else has no land). Higher the values of Gini coefficient, the greater would be the degree of inequality in the distribution of land holdings and vice-versa.

$$G = 1 - \sum_{k=1}^{n} (X_k - X_{k-1})(Y_k + Y_{k-1})$$

G = Gini coefficient

n = Number of sale and purchase households

X_k = Cumulative proportion of the households in k^{th} category.

Y_k= Cumulative proportion of land sale-purchase corresponding to k^{th} category.

3.6.3 Linear regression model

The sale factor was calculated for the expenditure occurred in last five years and the purchase factor i.e. income of farmers was calculated annually. Factors affecting sale and purchase of land have been worked out by the linear regression model:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots\ldots + \beta_5 X_5 + u$$

For the land sale market;

Y_i = Sold land (acre)

B_0 = Constant term

$B_{1.....}\beta_5$ = Regression Estimates

X_1 = Expenditure on Social Ceremonies (₹)

X_2 = Loan Repayment (₹)

X_3 = Expenditure on Foreign migration (₹)

X_4 = Expenditure on Medical Treatment (₹)

X_5 = Expenditure on house construction (₹)

u = Random Error Term

For the land purchase market;

Y_i = Purchased land (acre)

B_0 = Constant term

$B_{1.....}\beta_5$ = Regression Estimates

X_1 = Salary income (₹/annum)

X_2 = Agricultural Income (₹/annum)

X_3 = Income from abroad (₹/annum)

X_4 = Income from dairy (₹/annum)

X_5 = Income from rent (₹/annum)

u = Random Error Term

CHAPTER – IV

RESULTS AND DISCUSSION

Punjab is an agriculture dominating economy with limited resources. Land is the basic factor of production and plays very important role in agrarian economy. The land ownership has a social status and it is an economic asset. With the onset of green revolution in Punjab it becomes difficult for farmers to keep their land intact and continue farming. They are selling their land or leasing it out due to competition given by technology and big farms. The number of total operational holdings in Punjab increased from 10.03 lakh in 2005 to 10.58 lakh in 2011 (Anon, 2012). The proportion of marginal and small land holdings is also increased in this period from 13.36 and 18.25 per cent in 2005 to 15.50 and 18.53 per cent in 2011 respectively but this proportion is decreased among medium, semi-medium and large farm size categories. Over this period the average size of operational holdings is decreased from 3.95 ha to 3.78 ha. Keeping in view the above scenario, the present study was conducted in South-Western region of Punjab to study land sale-purchase transactions and factors affecting the market.

Keeping in mind the objectives of study, the results have been presented under following sections:

4.1 Socio-economic profile of the selected respondents.

4.2 Pattern of sale and purchase of land.

4.3 Reasons for sale and purchase of land.

4.4 Factors affecting sale and purchase market.

4.5 Framer's perception towards land market.

4.1 Socio-economic profile of the sampled respondents

It is important to overview the socio-economic profile of the selected respondents before presenting the results of the study. The variation has been observed in socio-economic characters of the respondents. It includes parameters like age, education and family size of the selected respondents. The information is discussed below:

4.1.1 Age

Age is an important socio-economic parameter because the power to take decisions is greatly influenced by the age of the person. Table 4.1.1 revealed that on over all basis, the large proportion of household heads (43.33%) belonged to the age group between 51 to 65 years in the study area. Out of the total sampled farmers, about 40 per cent respondents belonged to the late adult hood group i.e. 36 to 50 years. The number of farmers belonged to

the age group of 36 years to 65 (about 83%) years was more as compared to other age groups. While the proportion was highest among marginal farmers belonging to the age group of 51-65 i.e. 64.71 per cent and lowest among small farmers 29.03 per cent. The majority of farmers were related to the age group of 51 to 65 years followed by 36 to 50 years. The number of farmers up to 19 and more than 65 was less as compared to other age groups. On an overall basis, the average age of family head was worked out to be 52.51 years, while 56.88, 49.51, 53.82, 51.71 and 52.6 in case of marginal, small, semi-medium, medium and large farmers. The results showed that the youth of Punjab does not show any interest to adopt agriculture as a profession.

Table 4.1.1: Age wise distribution of sampled respondents in south-western Punjab, 2015-16

(Number)

Particulars	Farm size categories					
	Marginal	**Small**	**Semi-medium**	**Medium**	**Large**	**Total**
20-35	0 (0.00)	4 (12.90)	1 (2.86)	2 (6.25)	0 (0.00)	7 (5.83)
36-50	4 (23.53)	15 (48.39)	15 (42.86)	14 (43.75)	0 (0.00)	48 (40.00)
51-65	11 (64.71)	9 (29.03)	16 (45.71)	14 (43.75)	2 (40.00)	52 (43.33)
More than 65	2 (11.76)	3 (9.68)	3 (8.57)	2 (6.25)	3 (60.00)	13 (10.83)
Total	17 (100.00)	31 (100.00)	35 (100.00)	32 (100.00)	5 (100.00)	120 (100.00)
Average age	56.88	49.51	53.82	51.71	52.6	52.51

Figures in the parenthesis are percentage to total

4.1.2 Education

Education had a great importance in the history of human development. Education empowers the farmers to understand the basics of any business enterprise and enhance the decision making power of the farmer. Among the selected households, the head of the family member is responsible for making important decisions. It also determines the level of awareness of the respondents besides affecting the social status. So it is very important to study the education level of the farmers. The category wise distribution of education level of head of the family is presented in table.

The Table 4.1.2 shows that out of the total sample of 120 respondents, the 18 per cent respondents found to be illiterate. The proportion of illiterate semi-medium and small farmers

was highest i.e. 25.71 and 22.58 per cent respectively. The proportion of respondents attained education up to primary, middle, high school and secondary school level was 11.67, 10.00, 17.50 and16.67 per cent respectively. Only seven family heads were found to be post graduate among selected respondents. Similarly, maximum number of family heads attained education up to graduate level was 20 per cent. In absolute term, the number of heads obtained education up to graduate level were the highest in (9) medium, (5) small and (4) semi-medium farmers.

Table 4.1.2: Education level of family heads of the sampled respondents

(Number)

Particulars	**Farm size categories**					
	Marginal	**Small**	**Semi-medium**	**Medium**	**Large**	**Total**
Illiterate	4 (23.53)	7 (22.58)	9 (25.71)	2 (6.25)	0 (0.00)	22 (18.33)
Primary	4 (23.53)	5 (16.13)	3 (8.57)	1 (3.13)	1 (20.00)	14 (11.67)
Middle class	1 (5.88)	2 (6.45)	3 (8.57)	5 (15.63)	1 (20.00)	12 (10.00)
High school	2 (11.76)	5 (16.13)	7 (20.00)	7 (21.88)	0 (0.00)	21 (17.50)
Senior secondary	3 (17.65)	4 (12.90)	8 (22.86)	5 (15.63)	0 (0.00)	20 (16.67)
Graduate	3 (17.65)	5 (16.13)	4 (11.43)	9 (28.13)	3 (60.00)	24 (20.00)
Post graduate	0 (0.00)	3 (9.68)	1 (2.86)	3 (9.38)	0 (0.00)	7 (5.83)
Total	17 (100.00)	31 (100.00)	35 (100.00)	32 (100.00)	5 (100.00)	120 (100.00)

Figures in the parenthesis are percentage to total

4.1.3 Family-size

Family size influence many farming decisions like labour used pattern, cost of farming, sale and purchase of land etc. The results presented in Table 4.1.3 shows the family size of sampled respondents in the study area. As the table shows the majority of respondents i.e. 64.17 per cent were having family size between 3 to 5 and the proportion of large farmers was highest followed by marginal and medium farmers. About 32 per cent farmers had large family size i.e. six and above. The proportion of semi-medium farmers was highest i.e. 37.14 per cent who had large family size. Just 4 per cent farmers had small family size. The average

family size was highest among medium farmers i.e. 5.18 members per family and lowest among the large farmers i.e. 3.6 member per family.

Table 4.1.3: Family-size wise distribution of sampled respondents

(Number)

Particulars	Farm size categories					
	Marginal	**Small**	**Semi-medium**	**Medium**	**Large**	**Total**
≤ 2	0 (0.00)	2 (6.45)	3 (8.57)	0 (0.00)	0 (0.00)	5 (4.17)
3 to 5	12 (70.59)	20 (64.52)	19 (54.29)	21 (65.63)	5 (100.00)	77 (64.17)
≥ 6	5 (29.41)	9 (29.03)	13 (37.14)	11 (34.38)	0 (0.00)	38 (31.67)
Total	17 (100.00)	31 (100.00)	35 (100.00)	32 (100.00)	5 (100.00)	120 (100.00)
Average size	4.94	4.74	4.97	5.18	3.6	4.90

Figures in the parenthesis are percentages to total

4.1.4 Cropping pattern

The quality of land and pattern of its use on farm were the crucial factors in determining the returns in agriculture. The cropping pattern indicates the extent of area grown to the total cropped area. The cropping pattern also indicates the degree of dominance of different crops grown during kharif and rabi season. Paddy and wheat were the most prominent crops grown during kharif and rabi season by the farmers in the study area. During the kharif season, paddy and cotton were the major crops. As the Table 4.1.5 indicates during kharif season paddy dominated the cropping pattern of all farm size categories as it counted for 47.42, 42.64, 37.16, 38.70 and 35.88 per cent of the gross cropped area on marginal, small, semi-medium, medium and large farms respectively. The second most important crop of kharif season was cotton which covered overall 8.23 per cent of total gross cropped area. The proportionate area under cotton was highest among the large farmers (11.69%) followed by medium (8.62%). Farmers also grow maize, sugarcane and fodder but area under these crops was very low as compared to other kharif season crops.

In the rabi season, wheat showed the positive relationship with the farm size. Wheat dominated the cropping pattern as it accounted for 44.85, 43.21, 39.95, 39.66, 37.59 and 39.97 per cent of the gross cropped area on marginal, small, semi-medium, medium, large and overall respectively. The fodder was the most important crop which on overall farm covers 1.20 and 1.18 per cent of gross cropped area during kharif and rabi season respectively.

Farmers also grow potatoes and other crops which include pea and gram which cover 6.42 and 1.05 per cent of total gross cropped area. It was observed that the paddy-cotton-wheat rotation dominated the cropping pattern in the study area.

Table 4.1.4: Cropping pattern of sampled villages in South-western region of Punjab

(Acre/farm)

Crops	Farm size categories					
	Marginal (n_1=18)	**Small (n_2=24)**	**Semi-medium (n_3=33)**	**Medium (n_4=32)**	**Large (n_5=5)**	**Over all (N=112)**
Kharif season						
Paddy	1.84 (47.42)	2.98 (42.64)	5.34 (37.16)	11.18 (38.70)	21.00 (35.88)	6.18 (38.52)
Cotton	0.05 (1.29)	0.30 (4.29)	1.11 (7.73)	2.49 (8.62)	6.84 (11.69)	1.32 (8.23)
Maize	0.00 (0.00)	0.06 (0.86)	0.12 (0.84)	0.24 (0.83)	0.40 (0.68)	0.12 (0.75)
Sugarcane	0.05 (1.29)	0.04 (0.58)	0.60 (4.17)	0.56 (1.94)	2.40 (4.10)	0.43 (2.68)
Fodder	0.08 (2.06)	0.14 (2.00)	0.31 (2.15)	0.26 (0.90)	0.03 (0.05)	0.19 (1.20)
Sub-total	2.02 (52.06)	3.52 (50.37)	7.48 (52.05)	14.73 (50.99)	30.67 (52.40)	8.24 (51.38)
Rabi season						
Wheat	1.74 (44.85)	3.02 (43.21)	5.74 (39.95)	11.46 (39.66)	22.00 (37.59)	6.41 (39.97)
Potato	0.05 (1.29)	0.26 (3.71)	0.77 (5.35)	2.10 (7.26)	4.74 (8.09)	1.03 (6.42)
Others	0.00 (0.00)	0.04 (0.57)	0.10 (0.70)	0.34 (1.17)	1.10 (1.88)	0.17 (1.05)
Fodder	0.07 (1.80)	0.15 (2.14)	0.28 (1.95)	0.26 (0.70)	0.03 (0.05)	0.19 (1.18)
Sub-total	1.86 (47.94)	3.47 (49.63)	6.89 (47.95)	14.16 (49.01)	27.87 (47.60)	7.80 (48.62)
Gross cropped area	3.88 (100.00)	6.99 (100.00)	14.37 (100.00)	28.89 (100.00)	58.53 (100.00)	16.04 (100.00)
Total area	34.73	85.11	247.46	472.06	153.37	992.73
Net operated area	1.93	3.54	7.49	14.75	30.67	8.20
Cropping intensity	201.03	197.45	191.85	195.86	190.83	195.60

Figures in the parenthesis are percentage to gross cropped area

4.2 Pattern of sale-purchase of land

Punjab faces serious problems in agriculture like debt on farmers, high prices of land, small size of operational holdings and less return from agriculture etc (Sharma *et al*, 2014 and Gill, 1989). Under this situation it is important to study the pattern and extent of land sale purchase among different farm size categories. Farmers try their best to increase the size of operational holdings and productivity with the proper management of farm resources. However, under certain circumstances farmers were selling their land under distress conditions. The pattern of sale-purchase of land, land prices and land rent has been discussed in this section.

4.2.1 Land rent in the sampled villages

The land rent mainly depends up on the soil fertility, irrigation and capital investment on the land. The land rent was also determined directly by dividing the productivity of land to its available resources. It was observed that land rent in the study area varied from ₹30 thousand to ₹41 thousand. Table 4.2.1 reveals that during year 2015-16, the average rental value was highest in the Maur kalan village i.e. ₹38.25 thousand/acre, followed by the Gummti kalan (₹37.04 thousand/acre) and Sibiaa (₹37.49 thousand/acre). In Bathinda, the land rent is higher due to the better soil productivity, irrigation facility and quality of water as compared to Faridkot. The range of land rent varies from ₹30.00-41.00 thousand/acre in Faridkot while in Bathinda it was ₹37.00-41.00 thousand/acre. The average rental value for two districts comes out to be ₹36.35 thousand/acre.

Table 4.2.1: Land rent in sampled villages of south-western Punjab

Districts	Villages	Range of land rent (₹ '000 per acre)	Average land rent (₹ '000 per acre)	Coefficient of variation
Faridkot	Dhaipai	30-41	36.33	10.64
	Deviwala	35-40	36.56	8.79
	Sibiaa	35-41	37.49	5.36
Bathinda	Maur kalan	35-39	38.25	3.76
	Gummti kalan	32-41	37.04	9.67
	Selbrah	30-36.5	33.46	8.30
Average		30-41	36.35	

4.2.2 Land price

The Table 4.2.2 shows per acre land prices in selected villages. The average price was ₹14.32 lakh per acre. The range of land price lies between ₹3.36 lakh to ₹40.26 lakh. The

minimum and maximum price was found in Maur kalan which ranges between ₹3.36 lakh to 40.26 lakh per acre. The range of land price was ₹5.00-28.80 lakh, ₹7.20-20.80 lakh and ₹8.00-24.58 lakh in Dhaipai, Deviwala and Sibiaa villages respectively. The prices of land mainly depend up on the land productivity, competition among buyers and location of land.

Table 4.2.2: Land price in selected villages of south-western Punjab

Districts	Villages	Range of land price (₹ lakh per acre)	Average land price (₹ lakh per acre)	Coefficient of variation
Faridkot	Dhaipai	5.00-28.80	11.35	100.11
	Deviwala	7.20-20.80	13.33	109.86
	Sibiaa	8.00-24.58	15.10	131.73
Bathinda	Maur kalan	3.36-40.26	20.63	113.27
	Gummti kalan	7.22-40.00	14.01	76.94
	Selbrah	7.23-21.33	10.47	120.00
Average		3.36-40.26	14.32	

4.2.3 Land transactions in selected villages

The total number of transactions which were executed by farmers was 148 during the period January 2011 to December 2015. The number of transactions was lowest in Deviwala village i.e. 17 and highest 30 in Sibiaa village. In Deviwala, the major factor of land sale was drug addiction and interest of farmers in other speculative activities. In other villages, the factors responsible for land sale were debt payment, expenditure on social ceremonies and migration.

Table 4.2.3: Number of land transactions in selected villages from 2011 to 2015

Districts	Villages	Number of transactions	Percentage
Faridkot	Deviwala	17	11.49
	Dhaipai	29	19.59
	Sibiaa	30	20.27
Bathinda	Maur kalan	20	13.51
	Gummti kalan	25	16.89
	Selbrah	27	18.24
South-western region		148	100.00

4.2.4 Farmers involved land transactions

The Table 4.2.4 shows the participation of farmers in different transactions of land market. There are total 120 respondents out of which 39 (32.50%) farmers involved in land sale market and 43 (35.83%) farmers involved in the land purchase activity. But 38 farmers i.e. 31.67 per cent involved in both the land sale/purchase and lease transactions.

Table 4.2.4: Number of respondents involved in land market

Land transactions	Number	Percentage
Sale	39	32.50
Purchase	43	35.83
Both sale/purchase and lease transactions	38	31.67
South-western region	120	100.00

4.2.5 Sale-purchase transactions among selected districts of Punjab

This Table shows the district wise distribution of farmers involved in land sale and purchase market. There are 60 farmers in each district. In Faridkot, 33.33 per cent farmers were involved in sale transactions where as in Bathinda there were 31.67 per cent. In case of both sale purchase and lease transactions 35 per cent farmers of Faridkot and 28.33 per cent in Bathinda district were involved. But the proportion of farmers who purchased land in Bathinda district was higher than Faridkot district i.e. 40.00 and 31.67 per cent respectively.

Table 4.2.5: Sale-purchase transactions among the selected districts

Land transactions	Faridkot		Bathinda	
	Number	Percentage	Number	Percentage
Sale	20	33.33	19	31.67
Purchase	19	31.67	24	40.00
Both sale/purchase and lease transactions	21	35.00	17	28.33
South-western region	60	100.00	60	100.00

4.2.6 Sale purchase transactions among different farm size categories

The Table 4.2.6 shows the sale purchase transactions of land made by farmers according to their farm size categories. Out of all total farmers 50 per cent farmers sold their agriculture land and 38.33 per cent farmers purchased land. The proportion of small farmers was higher in selling agricultural land than other categories i.e. 69.56 per cent followed by semi-medium and marginal farmers i.e. 60.60 and 63.64 per cent. The large farmers were also engaged in land sale market but their percentage was very low. In the purchase market, the proportion of large and medium farmers was more who engaged in land purchase activity than other categories i.e. 66.67 and 54.55 per cent. This shows that proportion of sellers was higher

as compare to the number of purchasers in large farm size category. The analysis revealed that the marginal and small farmers were the major players in land sale market and the medium and large farmers in purchase market. Some transaction of land was also transacted by farmers towards the non-agricultural purposes.

Table 4.2.6: Sale purchase transactions among different farm size categories

Farm size categories	Sellers		Buyers		Total	
	Number of farmers	Percentage	Number of farmers	Percentage	Number of farmers	Percentage
Marginal	7	63.64	4	36.36	11	10.37
Small	16	69.56	7	30.44	23	21.69
Semi-medium	20	60.60	13	39.40	33	31.13
Medium	15	45.45	18	54.55	33	31.13
Large	2	33.33	4	66.67	6	5.66
South-western region	60	50.00	46	38.33	106	88.33

4.2.7 Change in the farm size category of farmers after land transactions

The Table 4.2.7 represents the change in the status of farmers after land transactions. The number of farmers in marginal, small and semi-medium category declined over a period of time 2015-16, except medium and large farmers.

Table 4.2.7: Change in the farm size category of farmers after land transactions

Farm size categories	Before transactions	After transactions
Landless	0 (0.00)	8 (7.55)
Marginal	17 (14.17)	14 (13.21)
Small	31 (25.83)	18 (16.98)
Semi-medium	35 (29.17)	29 (27.36)
Medium	32 (26.67)	32 (30.19)
Large	5 (4.17)	5 (4.72)
South-western region	120 (100.00)	106 (100.00)

Figures in the parenthesis are percentage to total

The number of small farmers declined from 25.83 to 16.98 per cent followed by semi-medium and marginal farmers. 7.55 per cent respondents sold their entire land and joined in to the category of agricultural labour. It greatly influenced the status of respondents in the society. The number of medium and large farmers remained same after transactions. The landless and small farmers sold high price land for their immediate cash requirements and also augmented their income from non-agricultural works.

4.2.8 Land sale and purchase market in sampled districts

Table 4.2.8 describes the magnitude of land transacted by buyer and seller in the selected districts. The average owned land of farmers who sold their land was 7.97 acre and the average sold land of farmers was 0.98 acre. The proportion of sold area to the owned area was 12.3 per cent. This result shows that a small portion of land is being transacted in the study area.

The average owned land of farmers who purchased land was 9.84 acre and the average purchased land of farmers was 0.90 acre. The proportion of purchased land to the owned land was 8.71 per cent. It shows that the proportion of land sold was more as compared to purchase of land consequently the size of operational holding decreased continuously.

Table 4.2.8: Land sale and purchase market in sampled districts

Particulars	Faridkot	Bathinda	Total
No. of farmers who sold land	30	30	60
Total land in sampled villages (ha)	2951	4471	7422
Average owned land of seller farmers (acre)	7.28	8.65	7.97
Average sold land (acre)	1.25	0.72	0.98
Sold area as a percentage of owned land	17.17	8.23	12.3
Number of farmer who purchased land	22	24	46
Average owned land of buyer farmers (acre)	9.84	10.79	10.33
Average purchased land (acre)	1.23	0.60	0.90
Purchased area as a percentage of owned land	12.50	5.56	8.71

4.2.9 Land sale pattern

The Table 4.2.9 shows the number of farmers involved in land sale market according to their farm size categories. The proportion of farmers who sold land was highest in semi-medium category (33.33%) and lowest in large farmers category (3.33%). Among the farmers

who sold their land, 26.67 per cent were small, 25.00 per cent medium and 11.67 per cent marginal farmers. The studies revealed that the uneconomic land holdings and migration to urban areas were the dominant reasons, which influenced the marginal farmers to sell out their land and loan repayment and money required for social ceremonies was observed as one of the main reasons for land sale in farmers (Awasthi, 2009).

Table 4.2.9: Farm category wise number of farmers who sold land

Farm size categories	Number of farmers	Percentage
Marginal	7	11.67
Small	16	26.67
Semi-medium	20	33.33
Medium	15	25.00
Large	2	3.33
South-western region	60	100.00

4.2.10 Land sale in relation to farm size

The Table 4.2.10 shows that the semi-medium farmers sold the highest area of land (1.35 acre) but the large farmers sold very low (0.07 acre) of land. The marginal and small farmers sold 0.48 and 1.03 acre of land respectively. The average land sold by the all farm size category was 0.98 acre per farm. The proportion of land sale was higher in marginal and small farms.

Table 4.2.10: Land sale in relation to farm size in south-western Punjab

Farm size categories	Number of farmers	Average owned land (Acre)	Average sold land (Acre)	Sold land percentage to owned land
Marginal	7	1.05	0.48	45.71
Small	16	3.43	1.03	30.03
Semi-medium	20	7.42	1.35	18.19
Medium	15	13.81	0.78	5.65
Large	2	30.07	0.07	0.23
Total	60	7.97	0.98	12.30

The proportion of sold land to the owned land ranged between 0.23 to 45.71 per cent. The proportion of sold land was higher among the marginal and small farmers i.e. 45.71 and 30.03 per cent and the lowest among the large farmers (0.23%). For the total sample the

proportionate area sold to own land was 12.30 per cent. It was concluded that small and marginal farmers sold major part of their land. Many studies endorsed the reason for sale of land was low returns from agriculture, rising input costs, stagnant productivity and high cost of living (Bera, 2015).

4.2.11 Percentage of sold land to total sold land by the different farm size categories

The Table 4.2.11 shows the percentage of sold land by different farm size categories to total land sold. Semi-medium farmers sold highest proportion of land i.e. 46.02 per cent and lowest by large farmers i.e. 0.24 per cent. The semi-medium farmers sold average 1.35 acre of land whereas the small farmers sold average 1.03 acre of land per farm. This scenario showed that land sale transactions were more among the small and semi-medium farmers.

It was concluded that the marginal and small farmers sold highest proportion of their owned land, whereas, semi-medium farmers sold highest share in the total land sold.

Table: 4.2.11: Percentage of sold land to total sold land by the different farm size categories

Farm size categories	Number of farmers	Total sold land (Acre)	Average sold land (Acre)	Percentage of sold land to total sold
Marginal	7	3.36	0.48	5.70
Small	16	16.55	1.03	28.06
Semi-medium	20	27.15	1.35	46.02
Medium	15	11.79	0.78	19.99
Large	2	0.14	0.07	0.24
Total	60	58.99	0.98	100

4.2.12 Number of farmers who sold land due to low returns in agriculture

It was observed that agriculture has not remained a profitable venture. It was not only the small and marginal farmers find it difficult to remain in agriculture but semi-medium and medium farmers also feel the pinch of low returns. These farmers were large in number to sell their land as compared to other categories. The Table 4.2.12 shows that land sold by the respondents due to low returns in agriculture. It was found that 12 per cent farmers sold their entire land and became landless. It was concluded that the semi-medium and medium farmers were engaged in land sale market due to low returns but the average land sold by landless and marginal farmers was higher as compared to other categories.

Table 4.2.12: Number and extent of land size sold due to low returns in agriculture

Farmer size categories	Number of farmers	Average size before transaction (Acre)	Average sold land (Acre)	Average size after transaction (Acre)
Landless	3 (12.00)	1.21	1.21	0.00
Marginal	4 (16.00)	2.99	1.12	1.87
Small	3 (12.00)	4.81	0.68	4.13
Semi-medium	7 (28.00)	7.65	0.22	7.43
Medium	7 (28.00)	14.08	0.87	13.21
Large	1 (4.00)	35.12	0.12	35.00
Total	25 (100.00)	65.86	4.22	61.64

Figures in the parenthesis are percentage to total

4.2.13 Number of farmers who sold land due to loan repayment

The worst situation was observed in case of those farmers (17.65%) who sold their entire land for the repayment of loan and join the rank of landless farmers. All the farm size categories except large farm size sold their land to repay the loan. This proportion was (29.41%) in small and (29.41%) in semi-medium farmers who sold land to pay their old debts as compared to other categories (Table 4.2.13).

Table 4.2.13: Number and extent of land size sold for repayment of loan in south western, Punjab

Farm size categories	Number of farmers	Average size before transaction (Acre)	Average sold land (Acre)	Average size after transaction (Acre)
Landless	6 (17.65)	2.18	2.18	0.00
Marginal	2 (5.88)	2.37	0.37	2.00
Small	10 (29.41)	4.16	0.67	3.49
Semi-medium	10 (29.41)	8.48	0.73	7.75
Medium	6 (17.65)	13.96	0.80	13.16
Large	0 (0.00)	0.00	0.00	0.00
Total	34 (100.00)	31.15	4.75	26.40

Figures in the parenthesis are percentage to total

4.2.14 Number of farmers who sold land for construction of house

Another reason for land sale was construction of house for their survival. The average land sold by marginal and small farmers was more i.e. 1.61 and 2.26 acre but the proportion of semi-medium and medium farmers was highest as compared to other categories. 14.82 per cent farmers sold out their entire land for house construction and became landless (Table 4.2.14).

Table 4.2.14: Number and extent of land size sold for construction of house

Farm size categories	Number of farmers	Average size before transaction (Acre)	Average sold land (Acre)	Average size after transaction (Acre)
Landless	4 (14.82)	0.53	0.53	0.00
Marginal	5 (18.52)	3.61	1.61	2.00
Small	3 (11.11)	4.54	2.26	2.28
Semi-medium	8 (29.63)	8.50	0.44	8.06
Medium	6 (22.22)	13.36	0.78	12.58
Large	1 (3.70)	35.12	0.12	35.00
Total	27 (100.00)	65.69	5.76	59.92

Figures in the parenthesis are percentage to total

4.2.15 Land purchase pattern

It was observed that all the farm size categories participated in the land purchase activity. The total 46 farmers in the sample were purchased land. The proportion of medium and semi-farmers was highest in the land purchase activity i.e. 39.13 and 28.26 per cent respectively. Some marginal and small farmers also bought land for house construction. It was clear that the number of large farmers engaged in land sale and purchase market was very less (Table 4.2.15).

Table 4.2.15: Number of farmers involved in land purchase market

Farm size categories	Number of farmers	Percentage
Marginal	4	8.70
Small	7	15.22
Semi-medium	13	28.26
Medium	18	39.13
Large	4	8.70
South-western region	46	100.00

4.2.16 Land purchased in relation to farm size

Table 4.2.16 showed the land purchased scenario in relation to the farm size. The average owned land of these farmers was 10.33 acre and average purchased land was 0.90 acre. For the total sample as a whole the proportion of purchased land to owned land was 8.71 per cent.

Average owned land ranged between 2.00 to 28.25 acre. Similarly, the average size of owned land was 3.07, 6.50 and 13.80 with small, semi-medium and medium farmers.

Table 4.2.16: land purchased in relation to farm size

Farm size categories	Number of farmers	Average owned land (Acre)	Average purchased land (Acre)	Purchased land percentage to owned land
Marginal	4	2.00	0.21	10.50
Small	7	3.07	0.38	12.38
Semi-medium	13	6.50	0.73	11.23
Medium	18	13.80	1.28	9.28
Large	4	28.25	1.34	4.74
Total	46	10.33	0.90	8.71

On an average, the large farmers have purchased the highest area (1.34 acre) followed by medium farmers (1.28 acre), semi-medium (0.73 acre), small (0.38 acre) and marginal (0.21 acre). Purchased land as percentage to owned land was highest among the small farmers (12.38%) and lowest among the large farmers (4.47%). Table shows that the large farmers bought on an average 1.34 acre which was highest among all categories of farmers. The proportion of purchased land percentage to owned land was 10.50, 11.23 and 9.28 per cent in marginal semi-medium and medium farmers respectively.

4.2.17 Percentage of purchased land to total purchased land by different farm size categories

Table 4.2.17 represents the average land purchased by different farm size categories. The proportion of medium farmers was highest in purchased land i.e. 55.49 per cent. They bought total 23.06 acre of land with an average of 1.28 acre. The proportion of marginal and small farmers was lowest in land purchased (2.07 and 6.47%) with an average of 0.21 and 0.38 acre respectively. The semi-medium farmers bought 9.59 acre of land with an average of 0.73 acre. The number of large farmers was less but they bought average 1.34 acre of land which was highest than other farm size categories. The total 46 farmers together bought 41.58 acre of land with an average of 0.90 acre.

Table 4.2.17: Percentage of purchased land to total purchased land by different farm size categories

Farm size categories	Number of farmers	Total purchased land (Acre)	Average purchased land (Acre)	Percentage of purchased land to total purchased
Marginal	4	0.86	0.21	2.07
Small	7	2.69	0.38	6.47
Semi-medium	13	9.59	0.73	23.08
Medium	18	23.06	1.28	55.49
Large	4	5.36	1.34	12.90
Total	46	41.58	0.90	100.00

4.2.18 Land purchased pattern by non-farms

The farmers not only purchase land for agricultural purposes but also for the non-farming sector. The Table 4.2.18 represents the buyers of land and volume of land purchased by farmers for non-agricultural purposes. Farmers together bought 60.30 acres of land. Out of which 68.96 per cent land was bought by farmers for farming activities and 31.04 per cent land was transacted towards non-farming activities. From total of 18.72 acre, 4.43 acre was bought by colonizers, 3.74 acre by property dealers, 7.31 acre by commission agents and businessmen and 3.23 acre by other persons including NRI and servicemen. The proportion among colonizers was highest 23.66 per cent and lowest among the others (NRI and servicemen). This table also indicates that from total of 60 purchasers, 46 farmers purchased land to increase their size of operational holdings and 14 farmers purchased land to increase their income from non-farm activities. This scenario shows that about 31 per cent of purchased area has gone to non-agricultural purposes as a result the size of operational holdings declined.

Table 4.2.18: Buyers of land and volume of land purchased in the study area

Categories	Number of respondents	Total Purchased land (Acre)	Average Purchased land (Acre)	Percentage of total purchased land
Land purchased for non-agriculture purpose				
Colonizers	3	4.43	1.47	23.66
Property dealers	6	3.74	0.62	19.98
Commission agents and Businessmen	2	7.31	3.65	39.05
Others	3	3.23	1.07	17.25
Sub-total	14	18.72	1.33	31.04
Land purchased for farming purpose				
Sub-total	46	41.58	0.90	68.96
Total	60	60.30	1.00	100.00

Others include NRI and servicemen.

4.2.19 Land purchased to increase the size of operational holdings

Table 4.2.19 represents the land bought by farmers to increase their size of operational holdings. 27 farmers were engaged in this activity. They together bought on an average 3.79 acre of land. The average land bought by medium farmers was highest i.e. 1.24 acre and lowest among the marginal farmers with an average of 0.29 acre. The small, semi-medium and large farmers also bought land with an average of 0.33 cares, 0.81 acre and 1.12 acre respectively.

Table 4.2.19: Land purchased to increase the size of operational holdings

Farm size categories	Number	Average size of land before transaction (Acre)	Average purchased land (Acre)	Average size after transaction (Acre)
Marginal	2 (7.41)	2.00	0.29	2.29
Small	2 (7.41)	3.02	0.33	3.35
Semi-medium	7 (25.92)	6.50	0.81	7.31
Medium	13 (48.15)	14.11	1.24	15.35
Large	3 (11.11)	28.33	1.12	29.45
Total	27 (100.00)	53.96	3.79	57.75

Figures in the parenthesis are percentage to total

4.2.20 Land purchased for construction of house

Table 4.2.20 represents the land bought by farmers for construction of house. 21 farmers together bought average 5.10 acre. The proportion of land bought was highest among the medium farmers with an average of 2.30 acre and lowest among the marginal farmers with an average of 0.12 acre. The small, semi-medium and large farmers also bought land for construction of house i.e. 0.27 acre, 1.04 acre and 1.37 acre respectively.

Table 4.2.20: Land purchased for construction of house

Farm size categories	Number	Average size of land before transaction (Acre)	Average purchased land (Acre)	Average size after transaction (Acre)
Marginal	3 (14.28)	2.00	0.12	2.12
Small	2 (9.53)	3.27	0.27	3.54
Semi-medium	7 (33.33)	6.57	1.04	7.61
Medium	7 (33.33)	14.57	2.30	16.87
Large	2 (9.53)	29.00	1.37	30.37
Total	21 (100.00)	55.41	5.10	60.51

Figures in the parenthesis are percentage to total

4.2.21 Land purchased for non-agricultural purposes

Table 4.2.21 represents the land shifting of farmers from farm activities to non-farm activities. Farmers bought average 5.41 acre of land for non-agricultural purposes. Large farmers bought the highest acerage of land with an average of 2.25 acre but the number of medium farmers was highest than other categories and bought on an average 2.05 acre of land.

Table 4.2.21: Number and size of land purchased for non-agricultural purposes by farmers

Farm size categories	Number	Average size of land before transaction (Acre)	Average purchased land (Acre)	Average size after transaction (Acre)
Marginal	1 (6.25)	2	0.1	2.1
Small	1 (6.25)	2.5	0.5	3
Semi-medium	5 (31.25)	7.1	0.51	7.61
Medium	7 (43.75)	15.5	2.05	17.55
Large	2 (12.5)	26.5	2.25	28.75
Total	16 (100.00)	53.6	5.41	59.01

Figures in the parenthesis are percentage to total

4.2.22 Distribution of farmers and owned land in the surveyed villages of Punjab, 2015-16

The efficiency of agriculture depends up on the farm size. As the farm size increases the efficiency increases and vice-versa. In this table the distribution of owned and operated land holdings among the sampled respondents was analysed. Table 4.2.22 shows that among all farm size categories, the number of households (32) and the owned area (461.79 acre) was the highest in medium farm category accounting for 26.67 per cent of the total households and 45.71 per cent of total area, respectively. The 29.17 per cent semi-medium households also occupied 25.98 per cent of the total area. As this table also shows the 4.17 per cent of the total sampled households related to large farm size category occupied about 14.67 per cent of the total owned land in the study area. On the other hand, about 14.17 and 25.83 per cent of farmer with respect to marginal and small category occupied 2.46 and 11.18 per cent of the total owned land among sampled households in the study area. It is clear that there is an unequal distribution of owned land in Punjab state and it is highly concentrated to medium farmers. The Gini coefficient calculated from this table was 0.04 revealed that the extent of inequalities with regard to distribution of owned land was very low among sampled households.

Table 4.2.22: Distribution of farmers and owned land in the surveyed villages of Punjab, 2015-16

Size class (Acre)	Number of households	%age of households	Cumulative %age of households	Area (acre)	%age of area	Cumulative %age of area
Marginal	17	14.17	14.17	24.86	2.46	2.46
Small	31	25.83	40.00	112.97	11.18	13.64
Semi-medium	35	29.17	69.17	262.39	25.98	39.62
Medium	32	26.67	95.84	461.79	45.71	85.33
Large	5	4.17	100.00	148.14	14.67	100.00
Total	120	100.00		1010.15	100.00	
Gini coefficient	0.04					

4.2.23 Distribution of farmers and land after transaction in the surveyed villages of Punjab, 2015-16

The results presented in Table 4.2.23 indicated that among all farm size categories, the number of households (32) and the area operated (472 acre) possessed 47.55 per cent of total operated area was highest among the medium farm size category. As per estimates, 27.50 per cent of total households corresponding to semi-medium category occupied 24.93 per cent of the total operated area.

Table 4.2.23: Distribution of land after transaction in the surveyed villages of Punjab, 2015-16

Size class (Acre)	Number of households	%age of households	Cumulative %age of households	Amount of area (acre)	%age of area	Cumulative % of area
Landless	8	6.67	6.67	0.00	0.00	0.00
Marginal	18	15.00	21.67	34.73	3.50	3.50
Small	24	20.00	41.67	85.11	8.57	12.07
Semi-medium	33	27.50	69.17	247.46	24.93	37.00
Medium	32	26.67	95.84	472.06	47.55	84.55
Large	5	4.17	100.00	153.36	15.45	100.00
Total	120	100.00		992.72	100.00	
Gini coefficient	0.088					

On the other hand, 15.00 per cent, 20.00 per cent and 4.17 per cent households corresponding to marginal, small and large farm size categories occupied 3.50 per cent, 8.57 per cent and 15.45 per cent of the total operated area respectively. Hence, the operational land occupied by sampled households in the study area was highly concentrated to medium and semi-medium farmers. The value of Gini coefficient came out to be 0.088 which further indicated that the extent of inequality with regard to distribution of operational area increased among the sampled households.

4.2.24 Income

Agriculture is a major source of income for farm households. Indian agriculture has increased at 3 per cent per annum over last three decades. It helps in improving the farm income and poverty. Also, the non-farm sector contributes 44 per cent of total household income and it declines with the increase in size of land holdings (Birthal *et al,* 2014).

To work out the reason for sale and purchase of land, there is need to understand the income pattern of respective households. As farmers do not maintain the record of income from crops, the exercise was undertaken to calculate the crop input and output matrix and then worked out returns for the year 2015-16. The income from other sources was also noted down. As the Table 4.2.24 indicates the major portion of income was dominated by the farming.

Table 4.2.24: Source wise average annual income of sampled respondents in the study area, 2015-16

(₹/farm/annum)

Particulars of income	Farm size categories						
	Landless	Marginal	Small	Semi-medium	Medium	Large	Total
Crops	0 (0.00)	93524 (72.89)	119745 (64.38)	301963 (73.03)	482618 (70.81)	1111520 (65.67)	2109371 (65.97)
Dairy	3573 (3.74)	9431 (7.35)	14550 (7.82)	23158 (5.60)	13313 (1.95)	0 (0.00)	64027 (2.00)
Services	26250 (27.47)	4285 (3.34)	20000 (10.75)	43166 (10.44)	46451 (6.82)	60000 (3.55)	200153 (6.26)
Income from rent	0 (0.00)	10000 (7.79)	26327 (14.16)	45189 (10.93)	126077 (18.50)	21000 (1.24)	228594 (7.15)
Others	65750 (68.80)	11071 (8.63)	5361 (2.88)	0 (0.00)	13064 (1.92)	500000 (29.54)	595247 (18.62)
Total income	95573 (100.00)	128312 (100.00)	185984 (100.00)	413478 (100.00)	681525 (100.00)	1692520 (100.00)	3197394 (100.00)

Figures in the parenthesis are percentages to total income

Others include income from commission agents, shops, labour wages and remittance from abroad.

On an overall basis, the farming sector contributed about 68 per cent of total income out of which 66 per cent was contributed by crops and 2 per cent by dairy. The proportion of income from crops by marginal and semi-medium farmers was highest i.e. 72.89 per cent and 73.03 per cent followed by medium and large farm size categories. The landless farmers who sold their entire land did not acquire any income from crops. They get only small part of income from by raising livestock i.e. only 3.74 per cent but the share of small farmers was highest in dairy income i.e. 7.82 per cent followed by marginal farmers 7.35 per cent.

Farmers also earned income from non-farm activities like income from shops, wages and foreign remittance. In this major proportion of income was contributed by other activities i.e. 18.62 per cent followed by income from rent and services i.e. 7.15 and 6.26 per cent respectively. The proportion of landless farmers was highest who got income from services (includes at present government job and pensioners) i.e. 27.47 per cent followed by small 10.75 per cent and semi-medium farmers 10.44 per cent. Farmers were also engaged in land lease activities. As this table shows all farm size categories participated in land lease out market except landless farmers. The medium famers were the major players in this market and got 18.50 per cent of their income from land rent followed by small farmers 14.16 per cent. On an overall basis, the major portion of income earned by landless, marginal and small farmers was from non-farm activities. The medium and large farmers earned income from both farming as well as non-farming activities.

4.2.25 Land sale and average family income of the respondents in the study area

Table 4.2.25 describes the relationship between land sale/purchase and income of the respondents in the study area. The farmers together sold 58.99 acre of land in the study area with an average annual income of ₹3.48 lakh. Farmers bought 41.58 acre of land for agricultural purposes with an average income of ₹5.87 lakh. The annual income of buyers was more as compared to sellers. The major source of their income was income from services and abroad. None of the farmer utilized the agricultural income to purchase land. Some farmers also bought land for non-farming sectors. They together bought 18.72 acre of land for non-farming purposes like colonization and other speculative gains.

Table 4.2.25: Land sale and average family income of the respondents in the study area

Particulars	**Total land (Acre)**	**Average income (₹/lakh/farm)**
Land sold by farmers	58.99	3.48
Land purchased by farmers for agriculture	41.58	5.87
Land purchased by farmers for non-farming activities	18.72	3.03
Total	119.29	4.34

4.2.26 Socio-economic status of sellers and farm land sold

In the analysis the aspects considered were family size, education level, average annual income and average farm land sold by farmers. The sale of land has taken place through sale to others in small portion and none of them converted their own land for making plots.

The data on average extent of farm land sold, average family size, average annual income and their literacy reveals the influence on sold farm land for non-agricultural purposes. The average extent of farm land sold was highest in Faridkot district (1.23 acre) followed by Bathinda (0.72 acre). When we relate this data to family size, a clear pattern emerges. As it shows with the human resources available within households continue to do farming and households with less human resources wish to sold their land.

The Table also reveals that the average extent of agricultural land was higher among the low income households and lowest among the high income groups. Literacy status also influenced the sale of farm land. Thus, farm land sold was less in case of literate farmers and more in the case of less literate farmers. Faridkot has the lowest proportion (66.66%) of literate people but records highest average extent of land sold (1.23 acre) and proportion of literate people was highest among Bathinda (80.00%) and it shows the lower extent of farm land sold i.e. 0.72 acre. It clearly shows that the educated farmers were getting employment opportunities even in non-farming sectors and so they had capacity to hold their land. Study supports the finding of (Govindaprasad and Manikandan, 2016) that literacy level and farm land sold are conversely related.

Table 4.2.26: Socio-economic status of sellers and extent of farm land sold

Districts	Average family size	Average annual income (₹/lakh/farm)	Percentage of literate to total	Average extent of land sold (Acre)
Faridkot	4.6	3.39	66.66	1.23
Bathinda	5.16	3.56	80.00	0.72
Total	4.86	3.48	73.33	0.98

4.3 Reasons for sale and purchase of agricultural land

In this section, an attempt had been made to find out the reasons of land sale and purchase among sampled farmers. The results are described as below:

4.3.1 Reasons for sale of land of sampled respondents

It is the important matter of the study to find out the reasons behind the land sale by the farmers. It is important to know whether farmers were selling land under distress conditions or not. Heavy debt, family consumption needs, drug addiction, family size pressure and low returns from agriculture were the factors that affected the land sale market

Table 4.3.1: Reasons for sale of land of sampled farmers in South-western region of Punjab

(Multiple response)

Particulars	Farm size categories					
	Marginal (n_1=7)	**Small (n_2=16)**	**Semi-medium (n_3=20)**	**Medium (n_3=15)**	**Large (n_4=2)**	**Total (N=60)**
Pressure of arthiyas	3 (42.86)	8 (50.00)	6 (30.00)	10 (66.67)	0 (0.00)	27 (45.00)
Visit by bank officials	3 (42.86)	5 (31.25)	11 (55.00)	8 (53.33)	2 (100.00)	29 (48.33)
Division of land	2 (28.57)	10 (62.50)	10 (50.00)	7 (46.67)	0 (0.00)	29 (48.33)
For installation of tubewell	5 (71.43)	7 (43.75)	8 (40.00)	5 (33.33)	1 (50.00)	26 (43.33)
Social ceremonies	2 (28.57)	11 (68.75)	11 (55.00)	7 (46.67)	0 (0.00)	31 (51.67)
Loan repayment	5 (71.43)	9 (56.25)	13 (65.00)	7 (46.67)	0 (0.00)	34 (56.67)
Less returns from agriculture	3 (42.86)	5 (31.25)	8 (40.00)	8 (53.33)	1 (50.00)	25 (41.67)
Sending children abroad	4 (57.14)	2 (12.50)	8 (34.78)	9 (60.00)	0 (0.00)	23 (38.33)
Medical treatment	2 (28.57)	5 (31.50)	12 (60.00)	4 (26.67)	1 (50.00)	24 (40.00)
Construction of house	5 (71.43)	4 (25.00)	10 (50.00)	7 (46.67)	1 (50.00)	27 (45.00)
Others	3 (42.86)	4 (25.00)	9 (45.00)	7 (46.67)	2 (100.00)	25 (41.67)

Figures in parentheses are percentage to the total number of farmers in the respective categories

(Other sellers include addiction to alcohol, service, settled in abroad, expenditure on education, high expenditure on machinery and family dispute).

(Mani and Pandey, 1997). The results presented in this table shows that the dominant reason for land sale in all size groups was the repayment of old debts (56.67%). For this purpose 65 per cent semi-medium farmers, 56.25 per cent small and 46.67 per cent medium farmers sold their land. Expenditure on social ceremonies was also observed as another reason for land sale among 51.67 per cent farmers. The operational efficiency depends up on the farm size. As the farm size decreases the resources were not used properly as a result low returns from agriculture were obtained. Nearly 48 per cent farmers sold land due to the fragmentation of small land holdings at different places which occurred mainly due to the breakage of joint

families. Among all the sampled farmers, they opoined that the another important reasons like pressure by arhtiyas, for sending children abroad, due to illness in the family and occurs high expenditure on construction of house were reported by 45.00, 38.33, 40.00 and 45.00 per cent respectively. The sampled farmers were selling land due to repayment of old debts, land division and for installation of tubewell. Social ceremonies and medical treatment were not the main reasons but their significance could not be ignored and it can be accepted partially.

4.3.2 Reasons for purchase of land by sampled respondents

Table 4.3.2 represents the reasons for land purchased by farmers according to farm size categories. As this table shows majority (58.69%) of the farmers purchased land to increase their size of operational holdings which increases their income from agriculture. The land attached to their farm was also become a reason to purchase land. Similarly, it was observed that farmers purchased land for further investment purposes and for construction of house. Marginal farmers (75%) mainly purchased land for house construction. Land was also purchased for non-agricultural purposes by all the categories of farmers but majority falls in large size category.

Table 4.3.2: Reasons for purchase of land by sampled respondents in South-western region of Punjab

(Multiple response)

Reasons of purchase of land	Farm size categories					
	Marginal (n_1=4)	Small (n_2=7)	Semi-medium (n_3=13)	Medium (n_4=18)	Large (n_5=4)	Total (N=46)
To increase size of operational holdings	2 (50.00)	2 (28.57)	7 (53.84)	13 (72.22)	3 (75.00)	27 (58.69)
For further investment purposes	1 (25.00)	4 (57.14)	5 (38.46)	12 (66.66)	2 (50.00)	24 (52.17)
For non-agricultural purposes	1 (25.00)	1 (14.28)	5 (38.46)	7 (38.88)	2 (50.00)	16 (34.78)
Construction of house	3 (75.00)	2 (28.57)	7 (53.84)	7 (38.88)	2 (50.00)	21 (45.65)
To increase agricultural income	3 (75.00)	3 (42.85)	8 (61.53)	13 (72.22)	3 (75.00)	30 (65.21)
Land attached to their main land	2 (50.00)	3 (42.85)	8 (61.53)	10 (55.55)	3 (75.00)	26 (56.52)
Income from abroad	1 (25.00)	3 (42.85)	4 (30.76)	8 (44.44)	2 (50.00)	18 (39.13)

Figures in parentheses are percentage to the total number of farmers in the respective categories

4.4 Factors affecting agricultural land market

Land market pattern was mainly determined by the income level of buyers and expenditure pattern of sellers in the rural area. The factors affecting agricultural land sale and purchase market were determined by using linear regression model. The variables like expenditure on foreign migration, expenditure on loan repayment, expenditure on house construction and expenditure on medical treatment were included in the regression model.

4.4.1 Regression analysis of factors affecting land sale market

The coefficient of multiple determination (R^2) of the land sale market function was 0.65 indicating the explanatory power of the model. The variables expenditure on social-ceremonies (X_1), expenditure on migration (X_3) and expenditure on construction of house (X_5) were significant at one per cent level of significance. The other variable, loan repayment (X_2) was significant at five per cent level. The variable expenditure on medical treatment (X_4) was positive but non-significant.

The variable expenditure on social ceremonies (X_1) includes those farmers who spent money on marriages of their children or other religious functions. The variable loan repayment (X_2) includes those farmers which sold their land to pay their old debts. The variable expenditure on migration (X_3) includes those farmers who sent their children to other countries and expenditure on construction (X_5) of house includes farmers who sold land for purchasing plot for house and for house construction.

Table 4.4.1: Regression analysis of factors affecting land sale market

Variables	Regression coefficients	p-value
Intercept	0.13	0.36
Expenditure on social ceremonies (X_1)	0.16 **	0.0016
Loan repayment (X_2)	0.17*	0.038
Expenditure on migration (X_3)	0.16**	0.000006
Expenditure on medical treatment (X_4)	0.17^{NS}	0.51
Expenditure on construction of house (X_5)	0.15**	0.000001
R^2	0.65	

**, * showed that variables were significant at 1 and 5 per cent level of significance.
NS shows variables were non-significant.

4.4.2 Regression analysis of factors affecting land purchase market

The coefficient of multiple determination (R^2) of the land purchase function was 0.48 indicating the explanatory power of the model. The variables like agricultural income (X_2)

and income from rent (X_5) was significant at one per cent level of significance. The variables salary income (X_1) and income from dairy (X_4) were negative and non-significant. The variable income from abroad (X_3) was positive but non-significant.

The variable salary income (X_1) includes farmers who purchase land from salary income. The variable agricultural income (X_2) includes the farmers who purchase land from agricultural income just to increase their size of operational holdings and the variable income from rent (X_5) includes those who lease-out their land. The variable income from abroad (X_3) includes those who earned from foreign countries from their relatives.

Table 4.4.2: Regression analysis of factors affecting land purchase market

Variables	Regression coefficients	p-value
Intercept	0.045	0.84
Salary income (X_1)	-0.086^{NS}	0.40
Agricultural income (X_2)	0.17**	0.000045
Income from abroad (X_3)	0.0027^{NS}	0.56
Income from dairy (X_4)	-0.06^{NS}	0.87
Income from land rent (X_5)	0.40**	0.000015
R^2	0.48	

** showed that variables were significant at 1 per cent level of significance.
NS shows variables were non-significant.

4.5 Farmer's perception

Different respondents had different point of view towards the scenario of land sale and purchase market in the study area.

4.5.1 Farmer's perception toward the land sale market

Assured markets are those markets which provide information to buyer and seller about price awareness and all the procedure under proper rules and regulations. The property dealers should be registered by the government with fixed commission. As the table 4.5.1 shows the 88.33 per cent farmers thought that land sale is a social taboo; it is not a matter of pride. 81.67 and 71.67 per cent farmers demanded the assured markets for land sale and registered property dealers so that they can save themselves from the exploitation of the market.56.67 per cent farmers opined that there should be computerization of land data. Farmers also demanded there should be ban on social gatherings, creation of employment opportunities and provide medical facilities at reasonable prices.

Table 4.5.1: Farmer's perception toward the land sale market

(Multiple response)

Farmer's perception	Number of respondents	Percentage	Rank
Assured market	49	81.67	II
Registered property dealers	43	71.67	IV
Computerisation of land records	34	56.67	VI
Social taboo	53	88.33	I
Ban on social gatherings	39	65.00	V
Creation of employment opportunities	47	78.33	III
Education and medical facilities at reasonable prices	30	50.00	VII
Total	60	100.00	

4.5.2 Farmer's perceptions towards land purchase market

To make agriculture a profitable venture there should be no agricultural land ceiling limit, provide easy credit facility for land purchase and there should be provision of providing inputs at low prices. In the purchase market, farmers also demanded there should be registered property dealers and computerization of data. 80.43 per cent opined that there should be easy availability of credit so that every farmer can easily buy the land. 45.65 farmers think that there should be no ceiling on land holdings.

Table 4.5.2: Farmer's perceptions towards land purchase market

(Multiple response)

Farmer's perception	Number of respondents	Percentage	Rank
Computerisation of land records	28	60.87	III
Registered property dealers	34	73.91	II
No agricultural land ceiling	21	45.65	IV
Credit availability for land purchase	37	80.43	I
Total	46	100.00	

This section reveals that the expenditure on social ceremonies, migration services and loan repayment and construction of house were the major factors which affect the agricultural land sale market. Also the agricultural income and income from rent are the major factor which influences the land purchase market.

The present study was conducted in the south-western Punjab reveals that the tendency to sell agricultural land is more among the low income group. Sale of agricultural land has lowered the status of most of farmers in to landless and marginal farmers in the study area. The main non-agricultural uses of purchased land are keeping for speculative gains and construction of colonies. The farmers sell agricultural land due to distress condition like debt burden, poor economic base, rising cost of inputs, expenditure on migration of their child, expenditure on social ceremonies, construction of house, medical treatment and also due to addiction to alcohol. The sale of agricultural land affected the economic status of the farmers and none of the farmer reported any exceptional gains from land sale during this period which was enjoyed earlier.

CHAPTER – V

SUMMARY

Market transactions in farm land play an important role in the evolution of land ownership structure in the rural society. Land ownership pattern is influenced by several factors; the important among them are inheritance, sale policy and land transactions. Land market transaction is also influenced by the permanent transfer through sale and temporary through lease. Both these type of market transactions, namely sale and lease, affect patterns of ownership as well as utilization of agricultural lands. Punjab is an agriculture dominating economy with limited resources. Land is the basic factor of production and it plays very important role in agrarian economy. The land ownership has a social status and it is an economic asset. The number of total operational holdings in Punjab increased from 10.03 lakh in 2005 to 10.58 lakh in 2011 (State Agricultural Punjab, 2012). Punjab faces some serious problems in agriculture like debt on farmers, high prices of land, small size of operational holdings, less returns from agriculture etc (Sharma *et al*, 2014 and Gill S S, 1989). As the increase in agrarian crisis in Punjab it becomes difficult for farmers to keep their land intact and continue farming. That is why they are selling their land or leasing it out. Under this situation it is important to study the pattern and extent of land sale purchase among different farm size categories. The present study was undertaken following objectives:

i. To estimate the extent of agricultural land sale and purchase among different farm size categories.
ii. To estimate the determinants of land sale market in the study area.
iii. To study the terms and conditions of agricultural land transactions and farmer perceptions about agricultural land market.

The study was conducted in the South-western region of Punjab. The selection of farmers was done to analyze the pattern of land market transactions in the study area. Data has been collected from those farmers who were involved in the land market. For this purpose, first the list of land transactions was obtained from patwari circle for the last five years and then 120 respondents selected for the data collection either they have sold or purchased their land.

The study deals with the primary data collected about the agricultural land markets transactions in south-western region of Punjab. For this purpose, two districts Bathinda and Faridkot were selected. Out of these six villages were selected randomly i.e. Dhaipai, Deviwala, Sibiaa from Faridkot and Maur kalan, Gummti kalan and Selbrah from Bathinda. The primary data was collected from head of the family by personal interview. The data were collected about socio-economic characters, owned land, sale/purchase of land, leases in/out,

pattern of sale/purchase and reasons for sale/purchase etc. Further the descriptive statistical tools like averages, percentages, range, Gini coefficient and linear regression model was used for analyzing data.

Main results of the study

Socio-economic profile of sampled respondents showed that on over all basis, the large proportion of households belonged to the age group of 51 to 65 years in the study area. Out of total sample, about 83 per cent respondents belonged to the age group of 36 to 65 years. The proportion of marginal farmers belonging to age group of 51 to 65 years was 64.71 per cent. The number of farmer's age up to 19 and more than 65 was very less. The results concluded that the youth of Punjab does not show any interest to adopt agriculture as a profession.

Education has a great importance in the history of human development. Education empowers the farmers to understand the basics of any business enterprise and enhance the decision making power. The results revealed that about 18 per cent respondents found to be illiterate. 20 per cent farmers attained education up to graduate level. Only about 6 per cent respondents found to be post-graduated. The results concluded that the majority of respondents i.e. 64.17 per cent were having family size 3 to 5. The proportion of large farmers was highest followed by marginal and medium farmers. About 32 per cent farmers had large family size i.e. six and above. The proportion of semi-medium farmers was highest i.e. 37.14 per cent who had large family size 6 and above. Just 4 per cent farmers had small family size i.e. two and less than two. The average family size was highest among medium farmers i.e. 5.18 members per family and lowest among the large farmers i.e. 3.6 member per family.

To work out the income from crops detail analysis of crops was carried out. The cropping pattern of selected respondents indicated the dominance of different crops grown during kharif and rabi season. Paddy and cotton were major crops in kharif season, whereas, wheat and potato during rabi season. In South-Western region of Punjab, the paddy/cotton-wheat crop rotation was generally followed. As results indicated the paddy dominated during kharif season which covers 38.52 per cent of total gross cropped area. Among all farm size categories the farmers prefer to grow paddy. Cotton also covered 8.23 per cent of total gross cropped area followed by sugarcane (2.68%), fodder (1.20%) and maize (0.75%) respectively. Whereas, in rabi season, wheat covers 39.97 per cent of total gross cropped area followed by potato 6.42 per cent, fodder 1.18 per cent and others (includes pea and gram) 1.05 per cent.

The operational efficiency of the farm varies with the size of farm. There are two possible ways of expanding the operational holdings, firstly by purchasing land and secondly by leasing-in land. The results indicated that during the year 2015-16 sampled farmers lease-

in land and the average rental value of leased-in land was highest in Maur kalan i.e. ₹38.25 thousand/acre, followed by Sibiaa (₹37.49 thousand/acre) and Deviwala (₹36.56 thousand/acre) respectively. The average rental value for the selected districts came out to be ₹36.35 thousand/acre. The study was focused on sale of land. The results revealed that the price of sold agricultural land was highest in the Maur kalan village (₹20.63 lakh/acre) followed by Sibiaa (₹15.10 lakh/acre) and Gummti kalan (₹14.01 lakh/acre). The average price of land in selected districts worked out to be (₹14.32 lakh/acre).

The total number of transactions which were executed by farmers were 148 during the period 2011 to 2015 in the study area. The numbers of transactions were lowest in Deviwala i.e. 17 and highest 30 in Sibiaa. The average number of transactions was 29.6 during 2011 to 2015. The major factors observed for land sale was repayment of debts, drug addiction, house construction and expenditure on social ceremonies and migration services.

The pattern of land sale and purchase indicated the number of farmers engaged in land transaction activities. The proportion of semi-medium and medium farmers were same i.e. 31.13 respectively followed by small 21.69 per cent and marginal 10.37 per cent. The results indicated that status of farmers in all categories was declined during the period 2015-16 except medium and large farmers. It was observed that the status of landless and small farmers was decreased and they joined the category of agricultural labourer. They sold their land due to high indebtedness and high risk in agriculture.

The average owned land of seller farmers was 7.97 acre and they sold 0.98 acre of their land. The proportion of sold area to the owned area was worked out as 12.3 per cent means sampled farmers were sold their 12 per cent of land. The average owned land of buyers was 10.33 acre and average purchased area was 0.90 acre, which shows that sampled farmers purchased 8.71 per cent to their owned land.

The results concluded that the proportionate number of semi-medium farmers was highest in selling land i.e. 33.33 per cent. The sold land as percentage to owned land was higher among the marginal and small farmers i.e. 45.71 and 30.03 per cent respectively. It means marginal and small farmers sold major portion of their land. Out of total sold land major portion belongs to semi-medium and small category of farmers who sold i.e. 46.02 per cent and 28.06 per cent land respectively.

It was observed that agriculture was not remaining a profitable venture. It was not only the small and marginal farmers find it difficult to remain in agriculture but semi-medium and medium farmers also feel the pinch of low returns. It was found that 12 per cent farmers sold their entire land and become landless. Semi-medium and medium farmers also sold land due to low returns from agriculture and other reasons. The worst situation was observed in

case of marginal/small farmers (17.65 per cent) who sold their entire land for the repayment of loan and join the rank of landless farmers. All the farm size categories except large farm size sold their land to repay the loan. The proportion of semi-medium and medium farmers was also highest who sold land for construction of house followed by marginal and landless farmers.

The main reason for land sale was the repayment of their loan. About 56.67 per cent farmers of all categories sold out their land because of loan repayment. Recent studies revealed due to heavy debt on farmers, they sold land and left farming. Present study revealed that, 71.43 per cent marginal, 56.25 per cent small, 65.00 per cent semi-medium and 46.67 per cent medium farmers sold their land due to debt. Higher expenditure on social ceremonies was the next major reason for land sale by farmers. About 52 per cent farmers sold land due to extravagant expenditure on social ceremonies. About 48 per cent farmers sold out their land due to division of land and 38.33 per cent sold their land for sending their children to abroad. About 41.67 per cent farmer sold land due to family dispute, settlement in abroad, land away from main land and their consumption needs. This scenario shows that most of the farmers were sold land due to their old debts and expenditure on social ceremonies.

In the land purchase market, the number of buyers was less as compared to sellers. The proportion of medium farmers who engaged in purchase market was highest i.e. 39.13 per cent. The purchase land as percentage to owned land was highest among the small and semi-medium farmers i.e. 12.38 and 11.23 per cent. The results also concluded that the percentage of purchased land to total purchased land was highest among the medium 55.49 per cent followed by semi-medium farmers 23.08 per cent. The marginal and small farmers bought small portion of land for house construction.

It was observed that farmers not only purchase land for agricultural purposes but they also purchase land for the non-farming purpose. The farmers in all categories bought total 18.72 acre of land. Out of which, 39.05 per cent land bought by commission agents and businessmen followed by colonizers who bought 23.66 per cent of land transacted towards non-farms. The results concluded that 31 per cent of the total purchased area was transacted towards the non-farming activities by the farmers to increase their income from non-agricultural purposes. This scenario shows that fertile land was also transacted towards non-farming sector as a result size of operational holdings decreases.

There are many reasons to purchase land namely to increase their size of operational holdings, construction of house and for speculative purposes. 27 farmers in all categories bought an average of 3.79 acre of land to increase their size of operational holdings. 21 farmers bought land for construction of house with an average land of 5.10 acre.

Farmers not only engaged in land sale market but also they were interested in land purchase market. 38.33 per cent farmers from total sample purchase land for some reasons. About 59 per cent farmers purchase land for increasing their size of operational holdings. 45 per cent farmers purchase land for construction of house and 39 per cent farmers utilize their income coming from abroad.

It was observed that the major part of income was dominated by farming sector in the study area. The farming sector only contributes the 68 per cent of their income, 7 per cent from land rent and 25 per cent from non-farming sector. On an overall basis, the crop sector contributes 66 per cent of their total income and just two per cent by dairy. Farmers also earn income from services, land rent, commission agents, labour wages and remittance from abroad. It was observed from study that the major portion of income earned by landless, marginal and small farmers was non-farm activities and medium and large earned from both farming as well as non-farming.

Gini coefficient was also calculated for the distribution of farmers and owned land before and after transaction in the surveyed villages of Punjab, 2015-16. It was found that the Gini coefficient calculated for land before transaction was 0.040 and for after transaction it came out to be 0.080. The increase in value of Gini coefficient indicates that there was extent of inequality with regard to distribution of owned operational area increases among the sampled respondents.

When land sale and socio-economic indicators were correlated in Bathinda and Faridkot a clear pattern of land sale emerges. It was observed that in Faridkot district, the average family size, literacy level and average annual income of sellers was lowest and the land sold was highest i.e. 1.23 acre. These socio-economic variables had shown inverse relationship with the sale of land.

Land market pattern was mainly determined by the income level of buyers and expenditure pattern of sellers in the rural area. The factors affecting agricultural land sale and purchase market were determined by using linear regression model.

The coefficient of multiple determination (R^2) of the land sale market function was 0.65 indicating the explanatory power of the model. The variables like expenditure on social-ceremonies, expenditure on migration and expenditure on construction of house were significant at one per cent level of significance. The other variable loan repayment was significant at five per cent level. The variable expenditure on medical treatment was positive but non-significant.

The coefficient of multiple determination (R^2) of the land purchase function was 0.48 indicating the explanatory power of the model. The variables like agricultural income and

income from land rent was significant at one per cent level of significance. The variables like salary income and income from dairy were negative and non-significant. The variable income from abroad was positive but non-significant.

The study reveals that the expenditure on social ceremonies, loan repayment, house construction and expenditure on migration services were the main factors which affect the agricultural land sale market. The income from agriculture and income from rent were the major factors affecting the land purchase market.

It was observed that the socio-economic characters with land sale market had shown inverse relationship. The farmers with small family size, low literacy level and low income were highly participated in land sale market. The number of semi-medium and small farmers was more who engaged in land sale market but the sold area as percentage to own land was higher among the marginal and small farmers. Due to this reason some marginal and small farmers joined the category of labourers after selling their whole land. The factors responsible for land sale in the study area were repayment of old debts, expenditure on migration, house construction and social ceremonies of farmers. This scenario lowers the economic status of the farmers and had great impact on their living standards.

The study also showed that the farmers also participated in purchased market but their number is low as compared to sellers. The semi-medium and medium farmers were the major players in land purchase market. The major source of buying land was salary income and income earning from abroad. Some farmers also purchase the agricultural land for non-farming purpose. The marginal and small farmers also bought land but they purchase small plots only for house construction. It was observed that the participation of large farmers was comparatively low in land sale and purchase markets.

Farmer's perceptions are also noted down towards land sale and purchase market. Farmers demanded assured markets, registered property dealers, computerization of data, ban on social gatherings, creation of employment opportunities and easy credit availability.

Suggestions of the study:

There is need to develop infrastructure and institutions in market that may push the agriculture tread to on a sustainable growth path. The land records may computerize and integration of this under the relevant departments so that data may be available to everyone for their proper use. The agricultural land markets should be regulated and only licenses persons should work as property dealers and their commission should be fixed so that they cannot exploit any buyer or seller.

The higher expenditure on both education and medical treatment lowers the status of farmers. State intervention may be needed to provide free education up to metric level and health services at reasonable rates. It has been observed that the expenditure of farmers on social ceremonies was very high. This extravagant expenditure put the farmers in the category of viable one to non-viable. For this purpose the village leader/panchayat can play an important role to save the peasantry of Punjab.

It is not only the responsibility of government but also the farmers should follow the joint family system. It helps in maintaining the reasonable size of holding and reducing the expenditure on farming than the subdivided holdings. Lack of non-farm employment opportunities and expenditure on migration were emerged as the most important reason for sale of land. In order to sustain the livelihood of Punjab peasantry especially the landless farmers the policy planners may introduce the new possibilities to generate non-farm employment in the Punjab state. Government intervention is needed in respect of preventing the diversion of land from agriculture to non-agriculture purpose especially for speculation and fertile land for house construction. This is the need of hour. Hence, agricultural land which has greater implication on food security needs to be protected against indiscriminate conversion. This scenario will continue if legal and institutional policies are not developed and enforced directly.

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VITA

Name of the student	:	Harsh Bansal
Father's name	:	Sh. Bhim Sain Bansal
Mother's name	:	Smt. Babli Devi
Nationality	:	Indian
Date of birth	:	20/07/1994
Permanent home address	:	Heera Singh Nagar, St. No. 1, FDK Road, Kotkapura Pin 151204, Punjab harrybansal.bansal@gmail.com

EDUCATIONAL QUALIFICATION

Bachelor degree	:	B.Sc. Agriculture
University	:	Punjabi University, Patiala
Year of award	:	2015
%age of marks	:	76.50%
Master's degree	:	M.Sc. (Agricultural Economics)
OCPA	:	7.86/10.00
Title of the Master's thesis	:	Agricultural land marketing pattern in South-western region of Punjab