

## **GENDER MAINSTREAMING IN AGRICULTURAL MARKET LINKAGES AND ACTIVITIES: A CASE STUDY OF DEHRADUN DISTRICTS OF UTTARAKHAND**

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### **Abstract**

Women since ancient times have taken a leading role in the development of the society. They often are only associated with household work and yet are not given much importance in family decision makings. It is a fact that women of a household contribute more time working than their male counterparts, yet women do not receive the appropriate wage or recognition. Often it is seen in some families that women are considered burdensome and therefore they are denied their basic rights of education and even legal rights of owning land. This pattern of discrimination against women is seen around the world. In every country women are the backbone of agriculture. Agriculture is a way to empower a lot of women.

This paper reviews the status of women farming in Dehradun district of Uttarakhand. Furthermore, study examines the agricultural activity to generate the profit and manage the marketing network. Further this study evaluate the impact of policy awareness, market accessibility on agricultural productivity. This study found that very few women farmers are aware about the polices related to the agricultural marketing and production and are not engaged in marketing activities and networking management.

**Key words:** Women farmers, policy, market network and agriculture productivity

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**Introduction:****Women in agriculture: An overview**

Women produce majority of food products in most developing countries and are responsible for half of the world's food production. Aggregate data shows that women participation form 43 percent of labor force globally. It is also believed that if women farmers had the same access to resources as men the number of hungry in the world could be reduced by up to 158 million.

In Asia women labor force participation is dominated by China. Even in other countries agriculture is dominated by women. In Africa 80 percent of agriculture comes from small rural farmers that are mostly women (*Mucavele,--*). *Nandinigunewardena* and *Sang E. Lee* who have written about women in Sri Lanka and Costa Rica also argue that women held significant power over agriculture even before the introduction of corporate agriculture. Asian agricultural scientist has developed technologies for men farmers. Thelma Paris, a gender specialist at the International Rice Research Institute (IRRI) says that women farmers are excluded in technology design, testing and dissemination, and agricultural extension services; this has left the untapped capabilities of women as farmers and as leaders in agricultural development. Also social scientists while doing surveys on rural poverty, interview only men as they consider them head of the household. And even though wives provide unpaid labour their profession is automatically recorded as housewives.

In a country like India a farmer cannot afford a decent livelihood which remains to be critical even when 60 per cent of the county's population primarily depends on it. Indian economy observers have come to an incontrovertible conclusion that at the moment the country is witnessing some serious agrarian crisis, they fear it is the worst crisis since independence. Farmers committing suicide is the most gruesome manifestation of the crisis. Many prosperous states like Kerala, Punjab and Maharashtra are facing these issues.

At a time like this it becomes important to encourage farming especially women labour force because their participation is gradually increasing in the labour market.

In India, a large section of rural women are directly associated with agriculture. Agriculture especially in India is a family tradition. Women farmers living in hilly areas have to work more

than plain area farmers. Since our society is patriarchal, the role of each member is clearly defined. However women's work goes mostly unrecognized. Due to the refusal of education the literacy rate of the women in the state of Uttarakhand in the year 2001 was only 33 percent as compared to men which was 45 percent. It is also a fact that women living in higher altitude have more difficulties than other farmers. The water supply is not constant, they have to trek for kilometers and fetch waters from public taps in earthen pots. Then have to manage the household chores, farm activities and look after children and the elderly. This heavy work adversely affects the health of women and girls in hilly areas and causes them to have low mortality and immunity rate. Unhealthy women give birth to unhealthy babies. Medical attention is only given to pregnant or lactating women. Before and after period of pregnancy little or no attention is given to them. This leads high level of malnutrition in women and children.

### **Agricultural workforce division**

Let us see how the work force is divided-

Workers are mainly divided into major and marginal workers. Major workers are termed as main workers as they work for at least major part of the year which is six months (183 days) or more. Those who work less than 6 months are termed as marginal workers.

A cultivator is a person who is engaged either as employer, single worker or family worker in the land owned or held from Government or private person or institution for money or any kind of sharing of crops. However a person who works on another person's land for wages in money or share of crops is regarded as an 'agricultural laborer'. All workers who are not cultivators or agricultural laborers or household industry workers are termed as "other workers". In fact everyone who works in any economic other than agriculture labour, cultivation or household industry is covered in this category

### **Women participation in agricultural activities and market accessibility**

Fery (2008) stated that farmers networks are a great way for farmers to exchange information, socialize, lean and connected with traders. Women farms are connected to enhance their economic self-sufficiency through shared experience resources vision. FAO (2008) elaborated that women often hold distinct right and obligation and they often perform distinct function with

regards to market activity. Most of the women are small holder and who cultivate traditional crops and sale and using low levels of mechanization and technological input transact into moderate or low productivity. . Global integrated market provides a huge potential to upgrade the women farmers skill and farm optimum. Tondon (2013) compared the women farmers' role in traditional and emerging trend and found that women farm enterprenuerer are technically involved in only one or two enterprises activities. To expand the enterfrises and hemp them to take advantages of developed technologies, existing nodes of activities need to be enhance into the stronger integrated marketing network.

### **Research questions:**

- What is the participation rate of women associated with agricultural activity
- What are the conditions of rural women working in the agriculture secto.
- How does the working Hours in fields affect the agricultural productivity.
- What are the status of Marketing accessibility and Networking problem such as communication gap with buyers, unawareness technology use, price of output and Input.

### **Objectives of the study –**

1. To evaluate the average number of women working in farms in Uttarakhand state.
2. To examine the availability of agricultural assests of women farmers.
3. To examine the level of awareness of policies regarding prices of input and output and market.
4. To understand the challenges and problems faced by women farmers.
5. To examine the technologies and methods used for farming.
6. To provide recommendation on the basis of study.

### **Review of Literature**

*Carolyn Sachs and Margaret Alston(2010)* describe in their study that in many developed countries number of farmers and farms has declined but still the percentage of women farmers is increasing in most regions. Family farming has been the dominant mode of production in developed countries. *BrandthandHaugen* note in their research that multifunctional agricultural

and farm tourism in particular have introduced new dynamics to family farming which creates more equitable and potentially empowering opportunities for women.

**Sandra Brown (2002)** conducted a research in Nepal and found out that both men and women were active in crop production activities. Women were involved with every farming activity like harvesting millet grain, cutting millet straw and manually digging fields in preparation for planting wheat, whereas men would mostly cut millet straw and plow fields for wheat. Also women spent significantly more time on household-related work. It was also found out that work longer and spend a greater proportion of their day working than their male counterparts. Adult women spent 3.8 hours more than adult men working. This trend is mirrored elsewhere in both developing and developed and non-developing countries (FAO 1996; SWC 2001; IFAD 2002; Linden 2002).

**Tristan Brusle** examines in her research paper that due to scarcity of work in mountainous region of Nepal, men in huge numbers have migrated to other places in search of work. In Nepal the status of temporary migrant worker is passed down from father to son, just as the status of farmer. Therefore India's industrialization is not the main cause of migration from Nepal to Uttarakhand.

**The Tribune, Chandigarh(2012)** published an article saying that in rural Uttarakhand women are contributing up to 90% of the total work in agriculture and animal care. The participation rate of women in the economy of the state is much higher than several states and also the national average. These facts have been highlighted by Neeta Bora Sharma and NehaKirti Prasad of Kumaon University in their paper "Gender and development in the world of work and health". "The work participation rate of women has been constantly increasing at a large extent than men in the state over the past few years. State women play a crucial role in agriculture development and allied fields, including crop production, livestock, horticulture, post-harvest operations, fisheries etc." "Women participate in almost all the agriculture operations while the participation of male family members is confined to a limited number of operations." The paper also quotes that women in the state devote as much as 62.17% of time for outdoor activities, 21.11% for indoor activities and 8.72% for recreational activities. It also states that women usually work for

16.49 hours on a daily basis, and work related to agriculture and livestock consumes 29.35% of her time. The paper further states that “It has been generally recognized that the work burden among women in the states was very high and that they have to participate in almost every household activity, including social and religious function, in the absence of male family members. But the financial and other matters related to decision making, on a aspect, were more or less handled by male family member.”

*UshaTuteja(January 2013)* draws a profile of Uttarakhand women quoting that women are considered the backbone of Uttarakhand’s economy. The literacy rate in Uttarakhand has been above the all India level with 72.08% of population being educated. Among male the rate was 84.01% and female were 60.26% during 2001. In Uttarakhand 36.9% of population are workers. Among males this proportion was 46.4% while it was 27.1% among females. Also the work participation of women in Uttarakhand is higher than the national level.

*Nirmal Chandra, Pratibha Joshi, RenuJethi, M.L. Roy, H.L. Kharbikar and Atheequlla G.A. (2013)* describe in their research that women contribution to labor force in developed countries is 36.7% while it is about 43.6% in developing countries (FAO, 1999). In terms of extensiveness and intensiveness farm women have much more responsibilities than men. Environmental degradation increases women’s workload and women in general have less time to rest than men which in turn adversely affects their health. In Uttarakhand rural women face higher risks of morbidity and mortality because of strenuous physical work (Rawat, 1995).

*Bodapati, Subrahmanyeshwari and Chander, Mahesh (2011)* write in their study that state government in India especially states with mountain region are particularly active to promote organic farming, three states namely Uttarakhand, Sikkim and Mizoram have already declared themselves organic states. In the research it was found out that out of total 180 households studied land ownership with male members were 80.56% while only 19.74% female had land ownership. Ownership of livestock was with both men and women 48.82% as against with women in 33.33% households. Management decisions were taken by both men and women together 44.55% whereas marketing decisions were taken mostly by men 41.67% followed by

women 27.78%. Marketing of livestock products was attended mostly by women 48% in hill area.

*David Molden, Ritu Verma and Eklabya Sharma (2014)* describe in their research paper that gender equality and women's empowerment can help to ensure sustainable environments, increased well being of mountain communities and equal sharing of development and decision making benefits among women and men, as well as girls and boys. According to the global estimates 60% of the world's chronically hungry people are women and girls (WFP 2009). In Asia, women carry out a disproportionate amount of agricultural, income-generating, household, care and community work yet they do not own more than 11% of the land which is far below the world average of 20% of land owned women (FAO 2010).

*Saquina Mucavele* writes in her article that Women comprise of 40% of the world's agriculture labour force which also can raise upto 70% in some countries. In Africa 80% of the agriculture comes from small farmers who are mostly rural women. In the past ten years Africa has adopted new land laws that give ownership rights to women as well. Even though women contribute to agriculture the most in Africa women suffer most from illiteracy rates and are most visible face of poverty. Also due to insufficient supply of surpluses these women are unable to take care of their basic needs like health care, education for children etc. Moreover these women have to cover long distances by walking to fetch water and firewood. Majority weakness of the agricultural sector is to be found in the production, disposal, and preservation, processing and marketing of such products. Giving support to rural women is a way of breaking the vicious circle of poverty. Development strategies should consider rural women as epicenter paying special attention to them.

*Prerna Singh (2013)* elaborated that agriculture is the main occupation of the poor. Over the years there is gradual realization of the key role of women. An agriculture scientist named Swaminathan describes that woman was first to initiate the art and science of farming. While men went out hunting, women stayed back gathering seeds and cultivating them. Also women have multi-dimensional roles like agricultural activity, domestic activity and allied activities like cattle management, fuel wood collection and milking. Hence there is a need to examine women carefully the implication of land tenure laws and its implications.

*Jayati Ghosh (2015)* writes in her paper that the contribution of women in Indian agriculture is pivotal as farmer, co-farmers, and unpaid workers on family farms and paid workers in many task associated with farming. About three-fourth women workers in rural India are in agriculture even though their work is not statistically recognized. Even then they have been overlooked especially in the rural areas due to the patriarchal customs and social norms. Despite their importance especially in food cultivation, they are scarcely recognized as farmers.

### **Methodology**

The study was conducted in the districts of Dehradun districts. To meet the objective of this study this research paper is descriptive and exploratory in nature also it is based on deductive knowledge. The study is based on primary data as well as secondary data. Respondents are farmers cultivating cash crops like potato, Rajma, Ginger, and Sugarcane.

Analyses are drawn on the basis of the data collected. The data collected is on the basis of interview with the help of a questionnaire. Some statistical tools such as percentage distribution and trend analysis are used to analyze the data whenever necessary.

### **Hypothesis**

H1- Working hours in agricultural activities influence the agricultural productivity

H2-Market accessibility and networking for input and output affect the agricultural productivity.

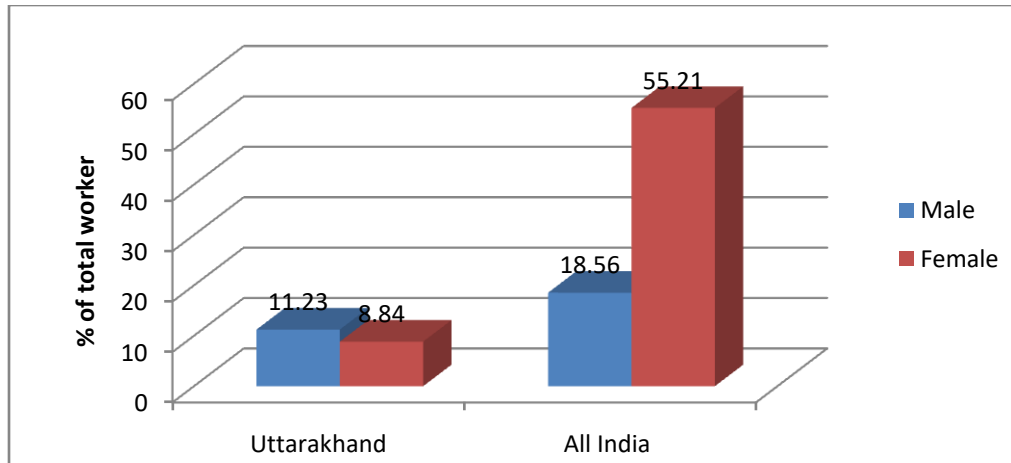
H3-Policy awareness influences the agricultural profitability.

### **Analysis and Presentation of data**

In this chapter we will analyze different variables that are involved in gender mainstreaming farming of Dehradun districts and find out different relationship and linkages.

**Figure 6.12: Figure showing the comparison between percentage of total number of workers in Uttarakhand and All India**



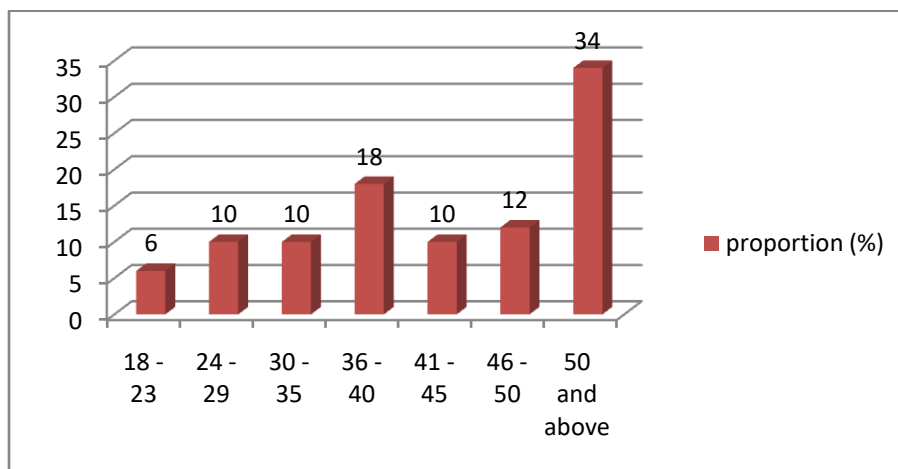


Sources: *Labour Bureau, Ministry of Labour & employment, Govt. of India*

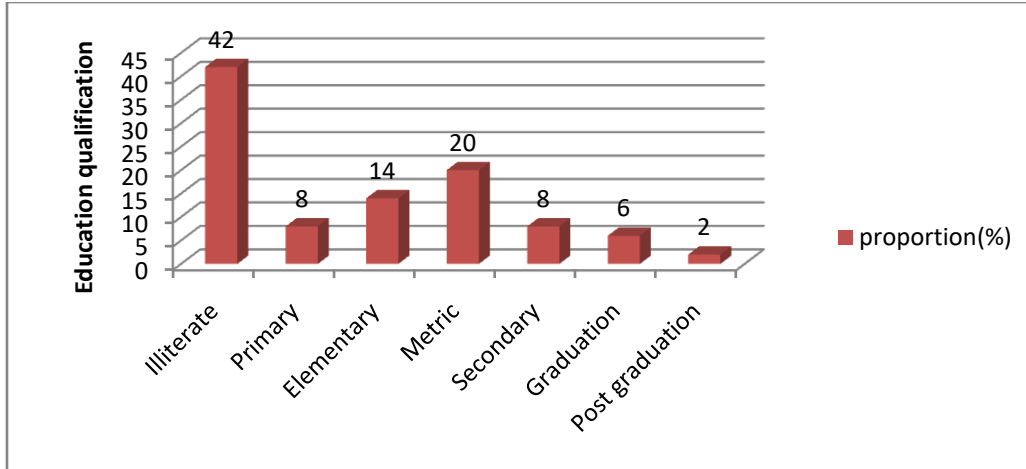
Looking at the figure it can be observed that male work participation in farming in Uttarakhand region is higher 11.23% than women work participation which is 8.84%. But this difference gap is not huge, it is only 2.23%. Whereas if we look at all India we can clearly see that women work participation is much higher with 55.21% than male work participation which is only 18.56%. This hence proves that women work more than men.

### **Figure 6.1: Figure showing the age group**

Fig 6.1 elaborate that women working in the field in the age bracket 50 and above were the highest as compared to the other age groups with 34% with age bracket 18 – 23 being the lowest with only 6%. This implies that women of higher age group are more engaged in agriculture.



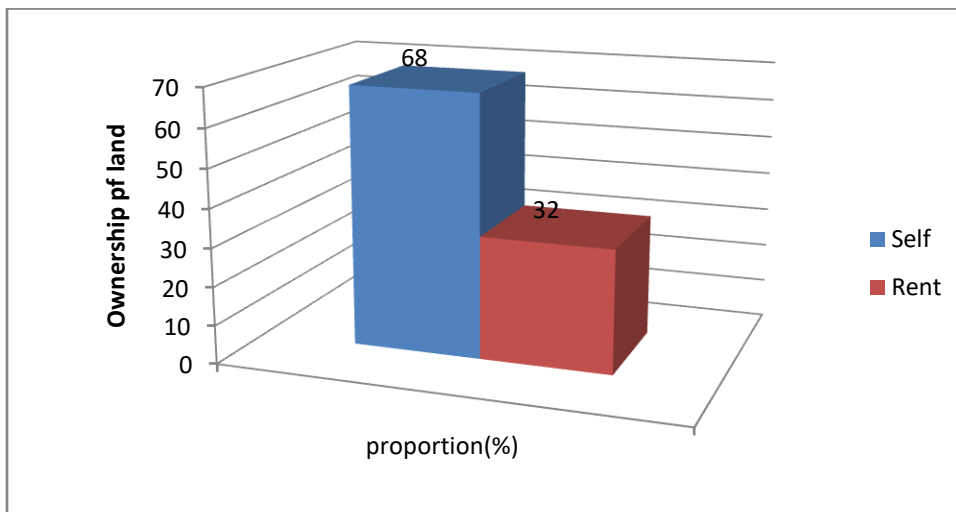
### **Figure 6.2: Figure showing proportion of education qualification**



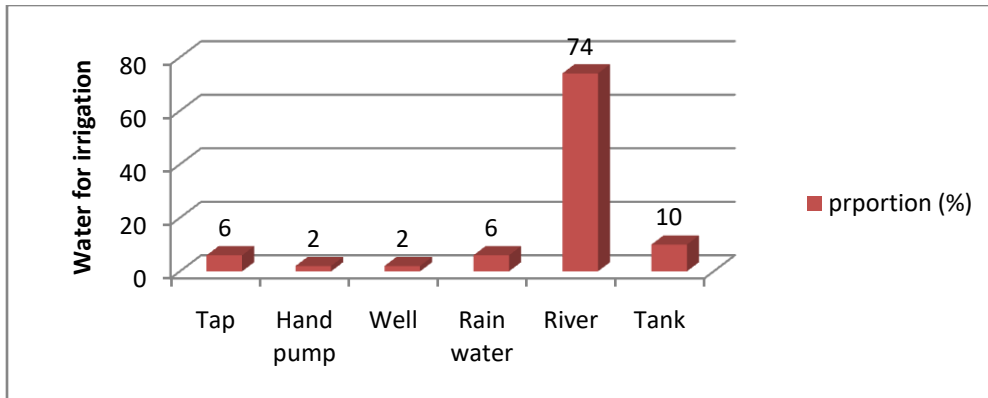
In the study we have found out that women working in field are mostly illiterate with 42%. They have not received even primary education. This can also mean that all women who were 50 and above in age were illiterate. This shows that earlier education was not given much importance as it is given now.

### **Figure 6.3: Figure showing ownership of land**

Fig 6.3 explains out of the total population 68% of women hold ownership of land and rest 32% work as wage laborers. However it is found that the land is not registered under their name it is registered under the name of a male member of the family usually their husbands or father-in-laws.

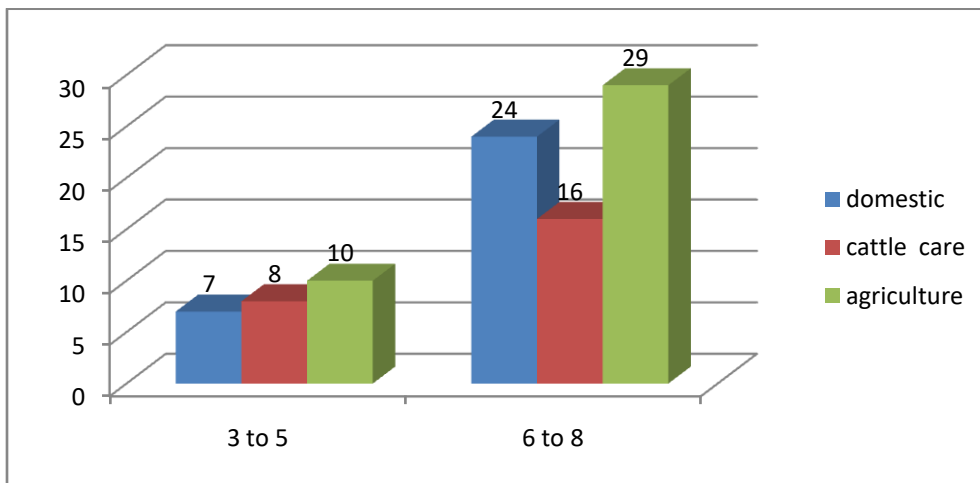


### **Figure 6.4: Figure showing source of water for irrigation**



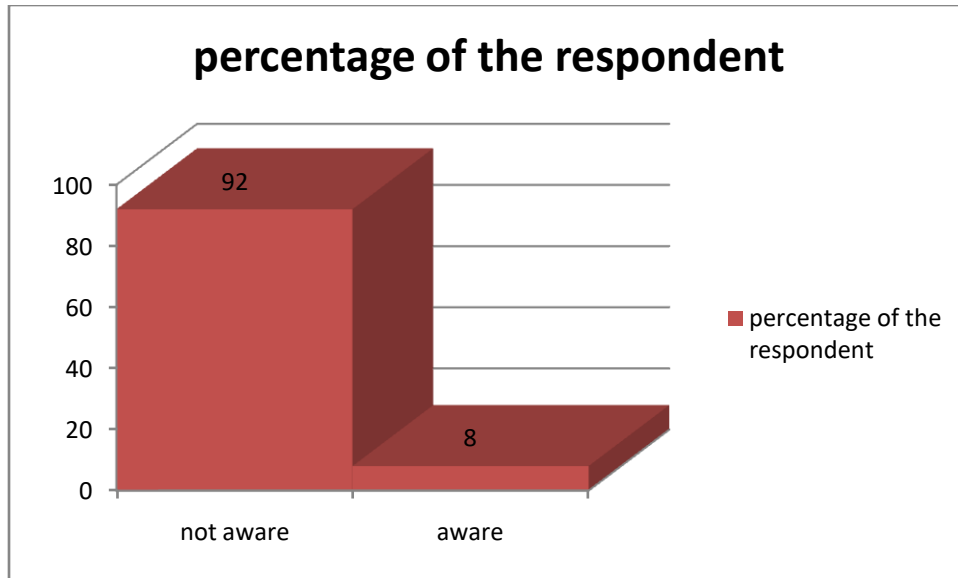
It was found in the study that 74% of the total observation depends on river water for irrigation. This means that they depend on natural resources for irrigation. 10% get water for irrigation through purchasing water by tanks. 6% depend on rainwater, 6% depend on tap water for irrigation. However, only 2% depend on well and hand pump for irrigation.

**Figure 6.5: Figure showing time division**



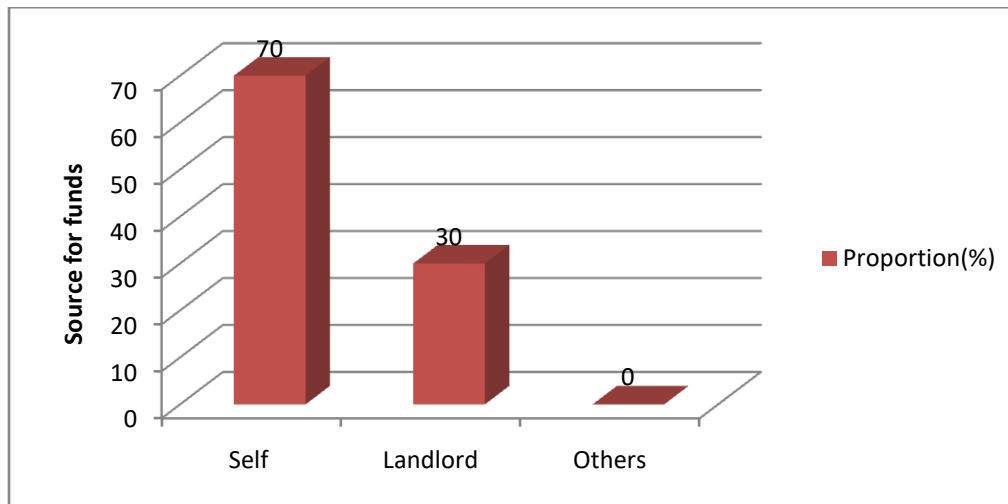
It was seen in my study that the population of women who spend up to two hours working were more in agriculture activity. Those who spend 3 to 5 hours working were also mostly working in agriculture. Similarly, those who spend 6 to 8 hours working were spending maximum time in agriculture activities. Time spent on cattle care depends upon the number of cattle they possess.

**Figure 6.6: Figure showing the level of awareness**



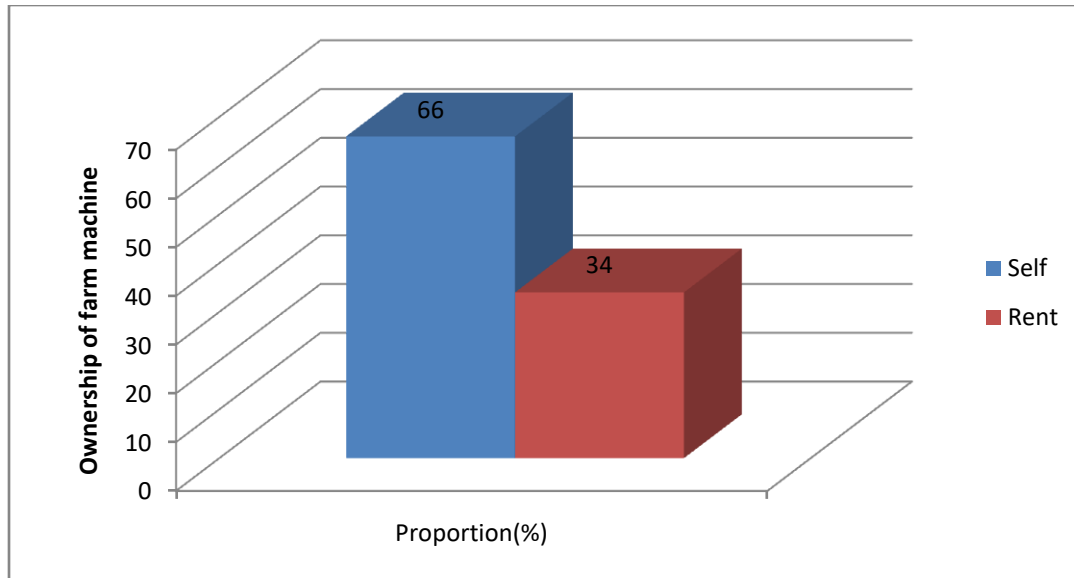
It found out that 92% which is a very high ratio is unaware about the policies related to market and input output facilities, proposed by the government. Only 8% know about them very briefly. This shows that they lack information dissemination and sources.

**Figure 6.7: Figure showing source for funds**



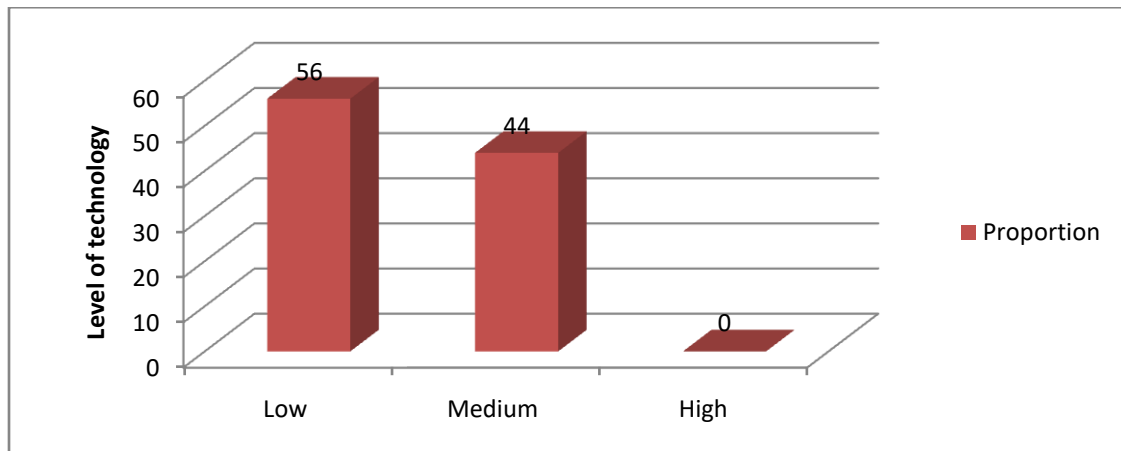
It was seen that mostly that those who own their own land also fund agriculture activities themselves. And those who work as wage laborer their agriculture activity is funded by the landlords.

**Figure 6.8: Figure showing ownership of farm machines**



It was observed in my study that 66% of the total sample owns the farm machines whereas only 34% rent the farm machine and tools. Usually these tools which are rented are huge machines such as tractors, whereas the tools that they own are simple hand tools.

**Figure 6.9: Figure showing the level of technology used in agriculture**

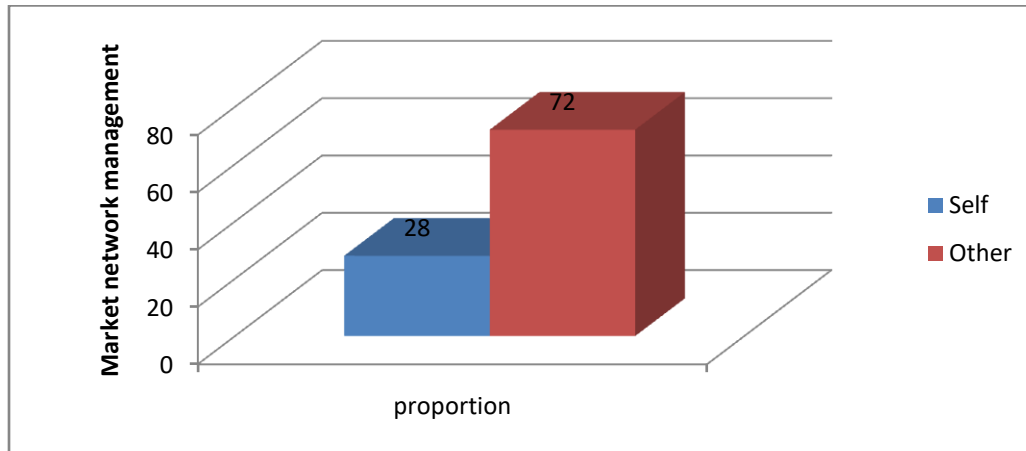


It was observed in my study that out of the total sample 56% still use low level of technological tools for agriculture. These tools are used manually such as – wooden grass sickles, hand hoes, dibber, ditching tools, drag etc. 44% of the total sample use medium level of agricultural tools such as – knack pack sprayers, iron rollers, tractors etc.

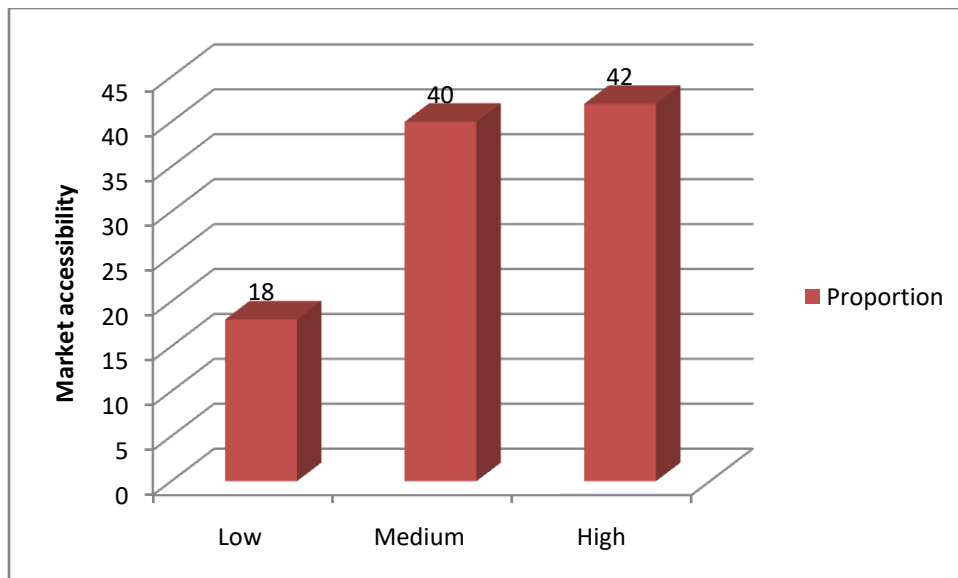
**Figure 6.10: Figure showing market network management**

Figure-6.10 it was found that 72% of women farmers do not manage their market network directly or by themselves. These market networks are managed by the male member of their

family or in some cases by the landlord. Only 28% of women farmers directly manage the market network.



**Figure 6.11: Figure showing market accessibility**



In the study it was found that generally the market accessibility was high with 42%, but it was also seen that their business network was very poor with only 28%. Accessibility of market refers the distance of the market and road connectivity to the women farmers. close market indicate high accessibility. This implies that despite proper accessibility women in agriculture lack business network.

**Table 1.4: Table showing relation between size and productivity of land**

	Coefficient	Std. error	t- ratio	p - value
Cont	2.22272	0.713633	3.115	0.0031
Size of land bigha	0.582709	0.0934248	6.237	.000
Agriculture activity (time)	.099	0.125	0.791	0.433
Awareness level	5.369	1.140	4.711	.000
Market Newtwork	-1.152	.686	-1.679	.100
Market Accessibility	1.430	.424	3.373	.002
R - squared	0.679			

It was observed in study that there is positive relation between size of land and productivity. According to the model there is a positive relation between size of land and productivity 68%, which means that with the increase in size of land the productivity will also increase, but the marginal rate is very low 0.58. The relation between size of land and time spend in agricultural activity is also positive with 09%. According to the model the size of the land determines the amount of time that is to be spends working on it. If the land size is large then 6 to 8 hours is required and if the land size is small then 1 to 4 hours is more than enough. It was also seen that the working hours increases during seasonal harvest time and they have to spend longer hours working in the fields working hours increase the productivity with .099 marginal rate. Furthermore, awareness level also influences the productivity as awareness about input and output policies supports other related activities. This is highly significant variable with large impact on agricultural productivity. Data shows that the farmers aware about policies benefited with high productivity. Moreover market networking and market accebility affect -1.152 and 1.430 respectively. The near the market the higher will be the productivity but market network management influence negatively as womens' networking is weak due to low social position in the society.

### **7.1 Findings and discussion:**

Through primary data survey I have found out that women indeed are involved in agriculture and household activity equally. Those who own their land mostly employ women wage laborer to

work for them. All the women members of the family work on field and also perform household chores. They receive little help for field work from the male members but do not receive any help for household work. They work tirelessly all day on the field and are also responsible for the upbringing of the children and looking after the sick and elderly. Many of them were unaware about the Government policies and refused to take loans. They would also visit the city for selling or purchases. Also many of them had not received more than primary education. The farm machines used were mostly rented. They also had cattle (cows and buffaloes being the most common) which provided another source of income other than agriculture. Almost all of them produced agriculture goods for consumption purposes only.

Market distance and accessibility increase the agricultural productivity. Moreover, awareness about policies also help to expand the agricultural productivity. Market network management by women farmers are reported less and showing negative impact on productivity because of lack of information.

## **7.2 Concluding Remarks and recommendation**

- 1: Out of the total sample taken it was observed that 45 is the average age and primary education is the average education of the total sample.
- 2: The average number of women working in farms in Uttarakhand is 116719 i.e. 8.84%.
- 3: Out of the total sample taken it was observed that the women work for at least 5.5 hours daily on the farm. This daily average working hour in agriculture farm is supposed to be increased during seasonal time.
- 4: Out of the total samples taken 68% of them work in their own farms and 32% work as wage laborers. However the land on which they work in is not registered under their own name as it is registered under the name of a male member of the family.
- 5: It was observed that out of the total samples taken 98% was unaware about the policies made by the government for agriculture.
- 6: The market accessibility was above average this implies that even though receiving raw materials for farming is difficult selling of the output is much easier.
- 7: There are many challenges and problems faced by women farmers such as –



- a) Time management – Women do not know how to manage their time therefore they end up spending time which is more than required. They spend major amount of time on smaller land but it does not help in the end productivity.
- b) Scarcity of irrigation infrastructure is also a problem that is faced by majority of women farmer.
- c) Awareness and literacy is a major problem of women farmers. Majority of women were illiterate also only a handful of them received primary, secondary or higher education.

As stated earlier women form the backbone of agriculture in our country. They contribute immensely towards agriculture. However they are not considered farmers and their work is generally overlooked even though a majority of women are engaged in agriculture. Since our society is patriarchal the role of each member is defined. Even then most of the work burden is on women. Mostly women farmers are not much educated and hence their advice and suggestion are not taken much into consideration. They also do not receive any help for daily household activities. The women members divide farm and household activities among themselves. Even though some of them were aware about the government policies and subsidies, almost nobody benefited from it. Many of them had dairy farms as a source of income other than agriculture. It was also observed that many women were illiterate.

Market is important to generate profit and sustain the interest in farming activities. This is clearly reported that women farmers are not management market network in spite of having market accessibility and road connectivity to the market because of dependency on husband and father in laws. This problem is create obstacle to stimulate economic self-sufficiency and limit the potential of farming.

Therefore in conclusion study would present that even though women produce majority of the food products still their contribution is overlooked and not given much importance.

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