

## Impact of agricultural inputs on income generation- A geographical analysis of Lam village of district Rajouri.

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**Abstract:** Agriculture and allied sector contribute about 13.9 per cent GDP 2013-14. Agriculture still accounts for about 54.6 per cent in total employment in 2011. Agriculture being a state subject, the primary responsibility for increasing agricultural production and productivity, exploiting untapped potential, and enhancing incomes of the farming community, rests with state governments. After achieving the goal of increasing food grains production by 20 million tons, new targets have been set under the National Food Security Mission (NFSM), to produce additional 25 million tons of food grains by 2016-17:. Focus is on cropping systems and on small and marginal farmers through development of farmer producer organizations (FPOS) and creating value chain and providing market linkages. During recent times even though the production increases at a remarkable rate but the farmer 's expenditure also increases which bears direct results on farmers profit. Under such circumstances farmers are bit reluctant to carry and contribute in the agricultural activities as the farmers input proportion is going on higher side as compared to the output coming from the agriculture. This results in low profit and high investment which discourages the farmers to switch over to other occupation wherein, rural population is moving towards the urban centers in search of better livelihood possibilities. Therefore the present attempt aims to investigate the status of inputs investment in the agriculture sector and income generation. In the present study an effort has been made to investigate the farmer total expenditure while cultivating food crops. The paper also aims to analyze farmer's profit while growing food crops.

**Keywords:** Agriculture inputs, food crops, income, livelihood, farmers.

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### Introduction

Agriculture is very dynamic in terms of its production and productivity. During the recent years lot of changes occur in agriculture sector like decrease in number of farmers from 127.3 million to 118.7 M in 2011. There is also decline in GDP from 15.2 percent in eleventh five year plan to 13.9 percent in 2013-14. Agriculture still accounts for about 54.6 per cent in total employment in 2011.

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Yield is dependent upon numerous factors like variety and quality of seeds, soil, methods of irrigation, fertilizers, herbicides or pesticides, labour etc. Prices usually received by farmers and the assurance of getting a exacting price also motivates farmers to take up a specific crop and employ quality efforts in its cultivation. Cultivation of food crops in the recent time became more expensive because of the expensive inputs like fertilizers, pesticides, labour, cost, seeds etc. Seed is the fundamental input for increasing agricultural yield and productivity. Efficiency of all supplementary agricultural inputs such as fertilizers, herbicides or pesticides, and irrigation in addition to impact of agro-climatic environment is mainly determined by the seed quality. It is expected that the seed quality accounts for 20-25 % of agricultural productivity.

Nikam *et al.* (2015) in their research paper mentioned that more number of small and marginal farmers (82%) pose serious challenge to Indian agriculture (Bhalla *et al.*, 2012) as it is responsible for problems like fragmentation of land, poverty (Chand *et al.*, 2011), low bargaining control to cultivators, low risk

bearing capacity, low output, etc. (Hegde 2010). In September 2006, Indian Council of Agricultural Research (ICAR) initiated National Agricultural Innovation Project (NAIP) to strengthen the agricultural growth and employment. In this project stress is laid on various agriculture developments can be triggered by innovations and applications of science in agriculture with restricted scope for area expansion the role of agricultural research and development is critical, in order to generate employment and additional income for the rural poor. Enhanced output, profitability and competitiveness work as the main resources and initiatives of agricultural growth for the future. The overall aim of NAIP is to contribute to the sustainable conversion of Indian Agricultural sector from primarily food self-sufficiency orientation to Market orientation coupled with poverty alleviation. There is an imperative need to introduce new scientific techniques in order to increase the productivity.

Diversified farming system can play a great role in sustaining agricultural production in tribal area by increasing employment opportunities, nutrition and income of rural population. There is a huge scope for increasing the agricultural production and productivity of our livestock by adopting scientific farming practices (Khadda *et al.*, 2014). The major restrictions expressed by cultivators in acceptance of improved varieties included: low awareness; lack of pest resistant varieties; non availability of seeds; lack of access to credit; high cost of seed; and lack of short or extra short duration varieties (Sharma *et al.*, 2014). The main objectives of the present paper are; (i) to examine the role of agricultural inputs in the agriculture sector, (ii) to analyze the impact of agricultural inputs on income generation, and (iii) to analyze the farmer total expenditure while cultivating food crops.

## 2. Material and methods

### 2.1 Study site.

Lam is a Village in Nowshera Tehsil of district Rajouri in Jammu & Kashmir State, India. It is located 20 Km towards west from tehsil Nowshera. It is situated between 33° 14' 44.90" N to 33° 14' 57.18" N latitude and 74° 7' 21.65" E to 74° 7' 30.48" E longitude covering an area of 2000 kanals approximately. Agriculture land in the village is about 1400 kanals. Lam village

comprises of 438 households and having a total population of 1919.

### 2.2 Methodology

The information required for the given study is primarily based on the primary survey wherein a well structured questionnaire was prepared and a size of fifty samples households were collected out of the total 438 households. Information regarded the selected indicators such as cost of fertilizers; ploughing, threshing, labour cost was recorded. The secondary sources were consulted to draw the comparison. The simple statistical techniques such as mean averages percentages were used to draw the analysis.

**Justification:** this paper tries to find out the farm expenditure and farm income while growing food crops particularly Maize and Wheat in kandi area where there is no source of irrigation in the study area it is found that the yield per kanal is very less as compared to the area where irrigation facilities are available in case of wheat. The paper tries to find out the role of irrigation in agriculture production. Due to absence of irrigation facilities, farmers are facing less productivity conditions because of uneven rainfall. The major bottlenecks in increasing farm income are natural conditions and lack of irrigation facilities. Mandal *et al.* (2014) in this research paper road map for farm mechanization in Assam state stated that for sustainable food grain production is mandatory at an optimal level. Less productivity forces rural youth to shift other sectors for their livelihood. Despite it being major source of employment is becoming marginal even to rural economic life. Due to this younger generations prefer to opt other sectors as their occupation where they get better livelihood and dignified life. Chand *et al.* (2011) in a research paper changes in the rural labour market and their implications for agriculture mentioned that between 1993-94 and 2009-10 the share of agriculture sector in rural employment declined from 78.43 per cent to 67.96 per cent, while agricultural wage rates (for male workers) followed an increase of 2.69 per cent per year in real terms compared to 1.75 per cent increase in wage rate. Despite of this increase youth don't prefer to opt. agriculture as their occupation.

### 3. Results

The Production of food crops in the recent year increases but the cost of production is also increases simultaneously which results into the low income generation in the sector. Agricultural inputs have direct bearing on the income generation of the farmers. In the study area the per kanal yield is very low that is just 51.76kg of wheat and 60.22kg of maize which is very low as compared to the nation average. The main reasons of this low level of yield are use of traditional seeds instead of HYV seeds in the study.

Agricultural inputs have significant influence on the income generation of the farmers. Fertilizers plays significant role in the production of food crops. Table 3 shows, per kanal consumption of fertilizer and the cost of the fertilizer. On an average about 143 rupees per kanal were spent on fertilizer by the farmers to cultivate wheat or maize in the study area.

**Threshing** is the process of grain preparation after crop harvesting. In the study area threshing is mainly done with the help of threshing machine. It is calculated that 1.2 rupee is spend while threshing 1 kg of wheat whereas 0.93 rupee per kg is spend on Maize. Per kanal cost of threshing is about 62.1 rupee for wheat and 60.2 for Maize.

**Table 1.** Consumption and cost of fertilizer

Name of the fertilizer	Consumption of fertilizer (Kg/kanal)	Price (Rs./Kg)	Total cost of fertilizer (kanal)
DAP	5	22	110
Urea	4	6	24
Potash	1	9	9

**Ploughing** in Lam village is mainly done with tractors and total rupee 70 per kanal was spent on it.

**Labour cost** is the major determining factor for the cost of production in the village. Among all the agricultural inputs labour cost is very high. Labour cost accounts about 68.57 percent of the total expenditure on wheat and 58.47 percent on Maize. In the village growing Wheat is more expensive because of the non availability of labour. Labour cost in the village is very high which directly influences the earning of farmers.

**Table 2.** Expenditure on agricultural inputs (Rs.) Lam village of Rajouri district

Agriculture inputs (kanal)	Wheat	Maize
Fertilizer cost	143	143
Ploughing	70	70
Threshing cost	62.1	60.2
Income generation	672	722.6

### Conclusion/findings:

- In the village lam there is an acute shortage of labour which result in to less income generation. Due to less availability of labour in recent years there is rapid increase in the labour cost. Labour cost accounts about 89.28 per cent for wheat crop and 41.51for Maize to the total income generated by the farmers. This results in low profit and high investment which discourages the farmers to switch over to other occupation wherein, rural population is moving towards the urban centers in search of better livelihood possibilities.
- Farmers have to rely on private commercial agents such as dealers for farm inputs like seeds, fertilizers, and pesticides.
- Timely availability of HYV seeds to the farmers so they increase their yield in the village. .
- There should be the Diversification of agriculture towards high value commodities like fruits that will helps farmers to earn more revenue so they live in dignified manner.
- Soil testing must be done and suitable crops must be grown in the area.
- Market facilities should be improved so that farmers may sell their product on reasonable prices
- There should be the Diversification of agriculture towards high value commodities like fruits and vegetables

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