

# Agriculture vs. Livestock: A Study of Kumoun Region of Uttarakhand

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## Abstract

This paper is an attempt to analyze the best investment opportunity for the farmers of the Kumoun region of Uttarakhand. The 2 most approachable activities i.e. agricultural activities and livestock-related activities have been considered for the same. It compares the investment and returns earned by the farmers through agricultural and livestock farming. The study also analyses the risk and return profile of such activities. This paper utilises the Net Present Value method to identify the best investment decision for farmers between these 2 farming activities. To determine the present value factor, the concept of the time value of money is utilised. The data was collected from primary and secondary sources. Primary data was collected with the help of a structured questionnaire and focused group discussion and secondary data was collected through various Government websites, magazines, etc. The study found that livestock activities are more beneficial for farmers in comparison to other agricultural activities. The study also found that the agricultural activities have a high-risk, fluctuating return profile due to climatic conditions, too much intermediary's involvement, wild animal problems, lack of resources, lack of training facilities, uncertainties etc. The livestock activities have a low-risk, stable return profile due to several factors like one-time investment, easy quality maintenance, less involvement of the intermediaries in the selling process, certainty etc. The study has contributed to the development of the rural economy, return migrants, unemployed individuals, policy makers and researchers.

**Keywords:** Agriculture, Capital Budgeting, Livestock, Net Present Value

## Introduction

Uttarakhand is located in the foothills of the Himalayan mountain ranges. The State has almost all climatic zones, making it amenable to a variety of commercial opportunities in horticulture, floriculture, and agriculture (Industrial Policy, The Government of Uttaranchal 2003). The State is home to more than 175 species of rare medicinal, aromatic and herbal plants. Uttarakhand has abundant natural resources due to hills and forests. Its agro-climatic conditions support horticulture-based industries. The vast water resources available in the State are also favourable for hydropower.

Agricultural and livestock-related activities play an important role not only in the economy of Uttarakhand but also in the economy of the whole country. According to the (Census, 2011), 69.77% population belongs to the rural areas in Uttarakhand. Such a population highly depends upon farming-related activities for their livelihood. Now the question is which farming activity is more beneficial for the rural population of Uttarakhand. In this paper, we compare 2 important farming activities such as agricultural activities and livestock farming and tend to identify which activity produce a better return to the farmers on their valuable investment. As we all know the investment is one of the most important decisions for an investor and before investing his/her valuable money in any activity he/she will ensure the return achieved from the investment, risk level, future of his/her investment etc. In this paper, we will try to identify the best investment opportunity for the rural households of the Kumoun region of Uttarakhand and compare the two most common activities which are conducted by almost every household in rural areas i.e. agriculture farming and livestock farming.

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## Literature Review

### Agriculture and Livestock

The agriculture sector of India is a knowledge and technology-intensive sector whose development can't be accomplished in isolation. Even though the share of agriculture in GDP has declined to one-fifth from one-half at the time of Independence (RBI, Handbook of Statistics), agriculture remains the predominant sector in terms of employment and livelihood with more than half of India's workforce engaged in it as the principal occupation (Planning Commission).

There are several challenges in Uttarakhand to adopt agriculture as a business such as more profit to large farmers in comparison to small farmers, wild-animal problems, irrigation problems etc. According to a study conducted by (Ledijensky, 1973) reveals that the green revolution is one of the reasons behind the disparity in income of small and large farmers. The reason behind this is that the large farmers can invest easily in new inputs. The gap between the productivity on large farms and that on small farms grew. And as a result, the difference in the income of the large farmers and that of the small farmers widened.

It is generally found that the Indian agriculture sector was found to be benefited from several schemes but these benefits had gone primarily to some groups of people i.e. big farmers, commission agents, blacksmiths, etc. Agriculture sector in Uttarakhand suffers from several limitations such as lack of information or awareness, lack of resources, wild animal problems etc. A study conducted by (Singh, 1979) found that tractor use has a positive effect on the employment of agricultural labour. Due to a shortage of money, small farmers in Uttarakhand has not been able to purchase such kind of instruments.

According to (Steinfeld et al., 2006; FAO report, 2009; Herrero et al., 2010; and Thornton, 2010) livestock farming has an important place in the agrarian economy as a user of natural resources, a source of livelihoods and a tool of economic growth during the last decades. According to (Herrero et al., 2010) livestock occupies 30% of the world's ice-free surface, contributes 40% of global agricultural domestic products, provides income for more than 1.3 billion people and nourishes 800 million

food-insecure people. According to (McMichael, 2007) livestock farming is essential for the sustainability of the global food system. According to (Homewood, 2004; and Reid et al., 2008), although livestock production at the global level is less, it plays a vital role in supporting the nutritional security and income mainly for the pastoral communities.

### Capital Budgeting

Capital budgeting decisions or investment decisions are crucial and complex and have attracted many research scholars in this field. According to (Dayananda et al., 2002), capital budgeting is the process of deciding investment projects which create the maximization of shareholder value. According to (Brealey & Myers, 2003), capital budgeting is mostly dealt with sizable investments in long-term assets. Assets can be either tangible such as building, plant, equipment or intangible such as patents, trademark etc. (Sekwat, 1999) explains the importance of capital budgeting decisions and said that capital budgeting is fundamental and used everywhere as a tool for planning, control, and allocation of scarce resources among competing demands. (Bowman & Hurry, 1993; and McGrath et al., 2004) explains the concept of capital budgeting in the context of huge investment projects and said that it is critical to choose the best investment project among competing projects and being taken by top management. According to (Sangster, 1993; and Segelod, 1998) attention must be given to investigating the methods used in evaluating and selecting investment projects.

According to (Sekwat, 1999), the most prevalent capital budgeting techniques in public finance include payback period (PB), accounting rate of return (ARR), net present value (NPV), internal rate of return (IRR), benefit-cost ratio (BCR), and profitability index (PI). (Pike, 1996; Kester et al., 1999; and Hermes et al., 2007) said that, among these methods of capital budgeting, 4 methods viz., NPV, IRR, PB, and ARR, have been identified as a predominant method and used in many studies. According to (Slagmulder et al., 1995) capital budgeting theory assumes that projects are evaluated based on economic merit. Building upon certain economic assumptions, including the time value of money, risk aversion, and an assumed goal of value maximization, sophisticated investment appraisal techniques such as NPV and IRR, have been advocated in the literature.

(Graham & Harvey, 2001) identified twelve capital budgeting methods in their research i.e. NPV, IRR, Annuity, Earning Multiple (P/E), Adjusted Present Value (APV), PB, Discounted Payback, PI, ARR, Sensitivity Analysis, Value at Risk and Real Options. According to (Graham & Harvey, 2001; Brounen et al., 2004; and Bennouna et al., 2010), all of them are not in use in all situations in capital budgeting practices. For example, IRR should not be the best method if investments are mutually exclusive or have multiple rates of return, however, IRR is an oft-exploited method in practice.

## Research Methodology

The data was collected through a structured questionnaire and focused group discussions with the households. One of the widely used capital budgeting technique i.e. Net Present Value method was also utilized to determine the investment decision. This method of capital budgeting was selected based on the literature review and the present value factor was decided with the help of the time value of money concept and other relevant factors provided by the respondent. We only considered the past three years data in this study to safeguard the study from several obsolete factors. The data collected through questionnaires and FGDs is based on Japan International Cooperation Agency (JICA) sponsored project entitled 'Uttarakhand Forest Resource Management Project' as the author of this paper was also a part of that project. The present value factor is calculated based on the time value of money.

## Theoretical Framework

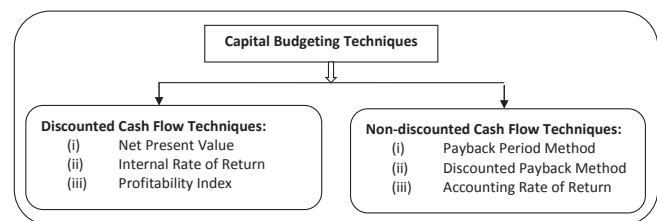
### Capital Budgeting

Financial management is essential for everyone in his/her life and capital budgeting plays an important role in the management of finance. According to (Bowman & Hurry, 1993; and McGrath et al., 2004) capital budgeting means selecting the best investment project among competing projects which is crucial and being taken by top management. The area of capital budgeting of financial management have been attracted many researchers during the last 5 decades and produced many theories such as Portfolio Theory: Markowitz, 1952, 1959; Optimal

Capital Structure: Modigliani and Miller, 1958; Miller and Modigliani, 1961; Myers, 1977 etc. (Peterson & Fabozzi, 2002) define capital budgeting is the process of analyzing and selecting investment opportunities in long-term assets where its benefits last for more than 1 year. Capital budgeting is a tool of financial management used basically for planning, control, and allocation of scarce resources among competing demands. According to (Sekwat, 1999) capital budgeting is a vital part of financial planning and decision making since capital investments are among competing alternatives.

### Methods of Capital Budgeting

According to (Sekwat, 1999; and Cooper et al., 2002), the most prevalent capital budgeting techniques in the public finance literature include payback period (PB), accounting rate of return (ARR), net present value (NPV), internal rate of return (IRR), benefit-cost ratio (BCR), and profitability index (PI). The methods of capital budgeting are divided into 2 categories i.e. discounted cash flow techniques and non-discounted cash flow techniques. The following figure illustrated this:



Source: Author.

Fig. 1

### Net Present Value (NPV)

According to (Alan, 2004) the net present value is the difference between the amount invested and the present value of future cash flows. According to (Horne, 1992) NPV is the difference between the project's present value and the initial investment.

The equation for the NPV is as follows:

$$NPV = CF_0 + \frac{CF_1}{(1+k)^1} + \frac{CF_2}{(1+k)^2} + \dots + \frac{CF_n}{(1+k)^n} - \sum_{t=0}^n \frac{CF_t}{(1+k)^t}$$

### Acceptance Rule for NPV

- Accept the project when NPV is positive (i.e. NPV > 0).
- Reject the project when NPV is negative (i.e. NPV < 0).
- May accept the project when NPV is zero (i.e. NPV=0).

### Internal Rate of Return

The internal rate of return is the discount rate which equates the present value of cash inflows with the present value of cash outflows. In other words, it gives us exactly zero NPV. According to (Khamees et al., 2010) internal rate of return technique is regarded as one of the most advanced and efficient methods of capital project evaluation. While the net present value technique required the use of an external rate; the cost of capital, the IRR technique attempts to find the rate that is internal to the project. The formula for calculating the internal rate of return of a project is as under:

$$\text{Internal Rate of Return} = \frac{\text{Cash Inflows}}{(1+r)^i} - \text{Initial Investment}$$

Where,

Cash Inflows = Inflow of Cash during the time period of the Project

r = Discount Rate

i = Time Period

### Profitability Index

According to (Horne & Wachowicz, 2001; and Elumilade et al., 2006) profitability index is the ratio of the present value of future cash flows to the actual cash outflow. According to (Droms & Wright, 2010) profitability index is another measure used to determine capital budgeting decisions made by an organization. They further added that it is similar to the technique of calculating the present value of the cash flows generated from the project. The formula for calculating the profitability index of a project is as under:

$$\text{Profitability Index} = \frac{\text{Present Value of Future Cash Flows}}{\text{Initial Investment}}$$

### Payback Period

(Crosson & Needles, 2010) defines the payback period as a capital budgeting technique as the time period calculated as a number of years in which the initial investment is recovered from the invested project. According to (Horngreen & Harrison, 2008) the investment alternative with the shortest payback period is considered superior. The formula for calculating the payback period is as follows:

$$\text{Payback Period} = \frac{\text{Initial Investment}}{\text{Net Annual Cash Inflows}}$$

### Discounted Payback Period

One of the serious objections to the payback method is that it does not discount the cash flows for calculating the payback period. In the discounted payback method we can discount cash flows and then calculate the payback. According to (Bhandari, 2009) the discounted payback period means the period in which the accumulative NPV of a project's cash flows is equivalent to zero. The discounted payback period still fails to consider the cash flows occurring after the payback period. The formula for calculating discounted payback period is as follows.

*Discounted Payback Period*

= Year Before the Discounted Payback Period Occurs

$$+ \frac{\text{Cumulative Cash Flow in Year Before Recovery}}{\text{Discounted Cash Flow in Year After Recovery}}$$

### Accounting Rate of Return

(McLaney, 2009) defines the accounting rate of return as the average annual accounting net income from the investment divided by the total cost of the investment or by the average cost of the investment. (Horngreen & Harrison, 2008) said that the average cost of the investment is derived by averaging the beginning investment and the end of life value, or salvage value. They further added that this technique is more defensible than payback in that it attempts to calculate a rate of return rather than concentrate on the time necessary to recapture the original investment. The formula for calculating the accounting rate of return is as under:

$$\text{Accounting Rate of Return} = \frac{\text{Average Annual Profit}}{\text{Average Investment}}$$

## Forest Resources in Uttarakhand

The recorded forest area of the State is 34,662 km<sup>2</sup>, which constitutes 64.79% of its geographic area. By legal status, reserved forests constitute, 71.08%, protected forests 28.51% and unclassed forests 0.41% of the total forest area. Major forest types occurring in the State are tropical moist deciduous, tropical dry deciduous, subtropical pine, Himalayan moist temperate, Himalayan dry temperate, subalpine, and alpine forests. Forests are largely distributed throughout the State with conifers and sal being the major forest formations.

Following table shows the land use pattern of Uttarakhand:

**Table 1: Land Use Pattern in Uttarakhand**

<i>Land Use</i>	<i>Area in '000 ha</i>	<i>Percentage</i>
Total Geographic Area	5348	
Reporting area for land utilization	5689	100.00
Forests	3468	60.96
Not available for land cultivation	465	8.17
Permanent pastures and other grazing lands	229	4.03
Land under Misc. tree crops and groves	252	4.43
Culturable Wastelands	386	6.79
Fallow land other than current fallows	71	1.25
Current fallows	41	0.72
Net area sown	776	13.64

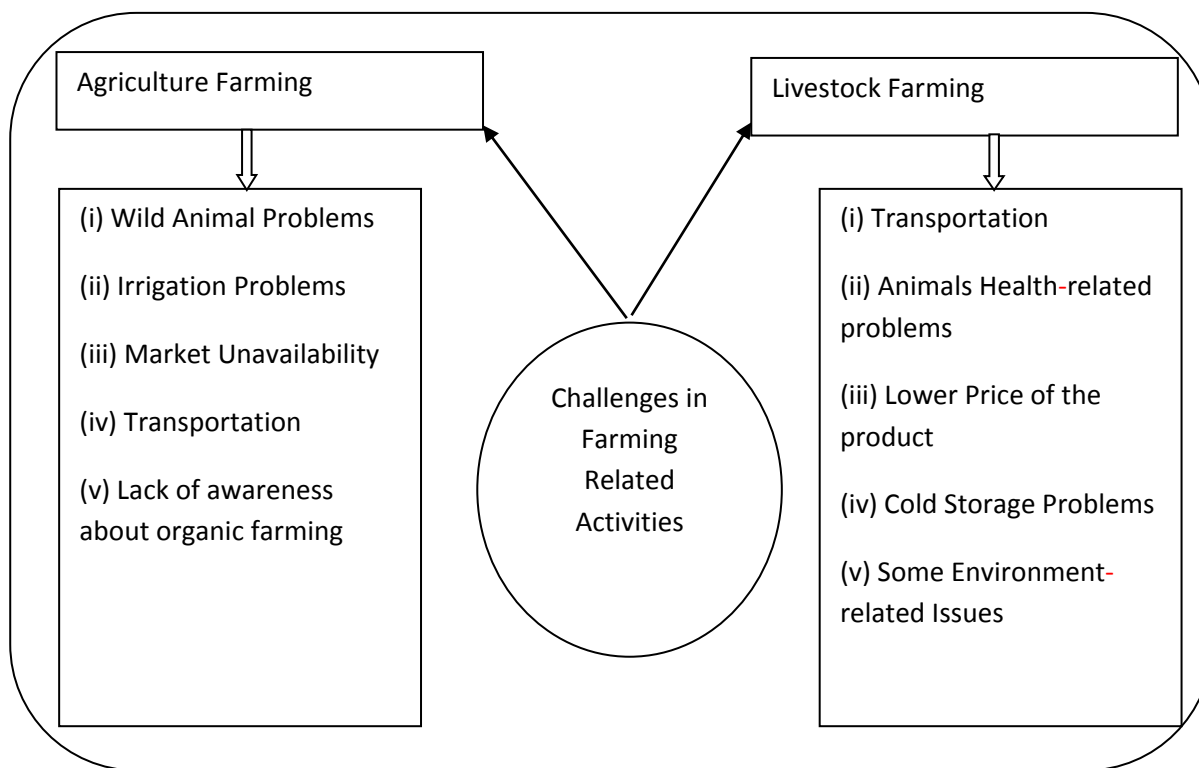
Source: Land Use Statistics, Ministry of Agriculture, GOI.

## Challenges in Agriculture and Livestock Activities

According to the report of the (United Nations, 2013), the human population is expected to increase from 7.2 to 9.6 billion by 2050. It means in 2050 the population increases by 33%. As day-to-day technological advancements, the global living standard will also be changed and demand for agricultural products will also increase. According to a report by (FAO, 2009a), demand for agricultural products will increase by about 70% in the same period.

A study conducted by (Rosegrant et al., 2009) reveals the importance of livestock products and said that livestock products are an important agricultural commodity for global food security because they provide 17% of global kilocalorie consumption and 33% of global protein consumption. According to (Hurst et al., 2005) the livestock sector contributes to the livelihoods of one billion of the poorest population in the world and employs close to 1.1 billion people. (Thornton, 2010; and Wright et al., 2012) said that there is a growing demand for livestock products, and its rapid growth in developing countries has been deemed the 'livestock revolution'.

Apart from the benefits of livestock products, there are several demerits associated with livestock production. According to (Gerber et al., 2013) the livestock sector contributes 14.5% of global greenhouse gas (GHG) emissions. Greenhouse gases played an important role in global climate change. According to the report of (IPCC, 2013), global climate change is primarily caused by greenhouse gas emissions that result in the warming of the atmosphere. According to (Bellarby et al., 2013; Reynolds et al., 2010; Steinfeld et al., 2006; and Thornton et al., 2010) livestock sector increase land degradation, air and water pollution, and declines in biodiversity.



Source: Author.

**Fig. 2: Challenges in Farming**

Climate change will also adversely affect the livestock sector. According to (Chapman et al., 2012; IFAD, 2010; Polley et al., 2013; and Thornton et al., 2009) the potential impacts of climate change on livestock include changes in production and quality of feed crop and forage.

When we talk about the agricultural activities in the Kumoun region of Uttarakhand it also suffers from several challenges. The most significant common problems faced by the hill farmers include increasing cropland scarcity and water scarcity to maintain agriculture on marginal lands. Another important challenge in the agriculture sector is that the farmers are not aware of the latest technologies invented in this sector.

## Data Collection and Analysis

In this study, data is collected through a structured questionnaire and focused group discussions. A total number of 54 villages from Kumoun region of Uttarakhand are selected as per climatic variations, altitudes, farming-related activities etc. The data relating

to investment is collected for the last 3 years i.e. 2017, 2018 and 2019. The following table shows the details of inflows and outflows of farmers in agriculture and livestock-related activities.

**Table 2: Investment and Return**

Sr. No.	Activity	Total Investment (in Rs.) (In Last 3 Yrs.)	Total Earnings (in Rs.) (In Last 3 Yrs.)
1.	Agriculture	33,548,129,674	59,870,395,595
2.	Livestock	31,677,415,000	131,073,487,240

Source: Field Visit by the Author under JICA Project.

The above data reveals that agricultural activities involve more investment than livestock-related activities and produce less return in comparison to livestock. The average investment in agricultural activities by the farmers was Rs. 11,182,709,892 per year and the average return they earned on this investment were Rs. 19,956,798,532. It shows that the average gross profits earned by the farmers by their agricultural investment

were Rs. 8,774,088,640 per year. On the other hand, the average investment in livestock activities by the farmers was Rs. 10,559,138,334 per year and the average return they earned on this investment was Rs. 43,691,162,414. It means the average gross profits earned from such investment were

Rs. 14,563,720,805 per year. It reveals that livestock-related activities generate a much higher return and low investment in comparison to agricultural activities. It means livestock-related activities will be more beneficial for the farmers in the context of livelihood, investment and return.

**Table 3: Livestock Data**

Sr. No.	District	Sheep	Goats	Horses & Mules	Pigs	Other Animals	Poultry	Total
1	Haridwar	7357	24692	2358	17980	568	71357	1,24,312
2	Udhamsingh Nagar	4084	43606	2540	4048	2890	296009	3,53,177
3	Nainital	2303	61474	3515	1076	965	106903	1,76,236
4	Almora	4372	156016	762	205	739	44513	2,06,607
5	Bageshwar	14768	59776	532	143	1379	14409	91,007
6	Pithoragarh	37138	129035	1754	104	2300	35409	2,05,740
7	Champawat	8	36810	443	85	444	10292	48,082
8	Dehradun	12894	87543	2735	6339	1882	249689	3,61,082
9	Pauri	65401	192797	704	564	2767	84855	3,47,088
10	Rudraprayag	10928	28182	2934	67	4317	4710	51,138
11	Tehri	24326	103368	2157	466	5000	32792	1,68,109
12	Uttarkashi	72367	84242	2331	212	4706	10219	1,74,077
13	Chamoli	54759	78159	1065	289	390552	11112	5,35,936
Total		310705	1085700	23830	31578	418509	972269	28,42,591

Source: Uttarakhand Livestock Development Board.

The data reveals that households engaged mainly in goat-related activities i.e. 10,85,700. After that poultry i.e. 9,72,269 related activities take place, respectively. Horses and pigs are found in very low volume in comparison to others. The district-wise highest number of animals found in Chamoli district i.e. 5,35,936 whereas, the lowest number was found in Champawat district i.e. 48,082. It indicates that the district Champawat has lower scope for such activities in comparison to the other districts of the state. The highest number of Sheep was found in Uttarakashi district, Goats was in Pauri district, Horses & Mules were in Nainital district, Pigs was in Haridwar district, Poultry activities was in Udham Singh Nagar district and other animals was in Chamoli district of the state. On the other hand, the lowest number of Sheep was found in Champawat district, Goats was in Haridwar district, Horses and Mules were in Champawat district, Pigs was in Rudraprayag district, Poultry activities was in

Rudraprayag district and other animals was in Champawat district. As the data reveals that most of the livestock-related activities were minimum in the Champawat district of the state. Therefore, government and policymakers should focus on promoting such activities in the district to enhance the earnings of the farmers belong to such district.

### Investment Decision (NPV Method)

Total investment in agricultural activities in the last 3 years (in Rs.): 33548129674

Total investment in livestock activities in the last 3 years (in Rs.): 31677415000

The cost of capital is considered as 10% on the basis of available literature.

**Table 4: Calculation of Net Present Value**

Year	Agriculture			Livestock		
	Inflows (in Rs.)	P.V.F. @ 5%	Present Value	Inflows (in Rs.)	P.V.F. @ 5%	Present Value
2017	19956812146	0.9524	19006867888	43690656680	0.9524	41610981422
2018	19956811999	0.9070	18100828483	43691035980	0.9070	39627769634
2019	19956771450	0.8638	17238659179	43691794580	0.8638	37740972158
Total			54346355550			118979723214
Less	Initial Investment		33548129674			31677415000
NPV			20798225876			87302308214

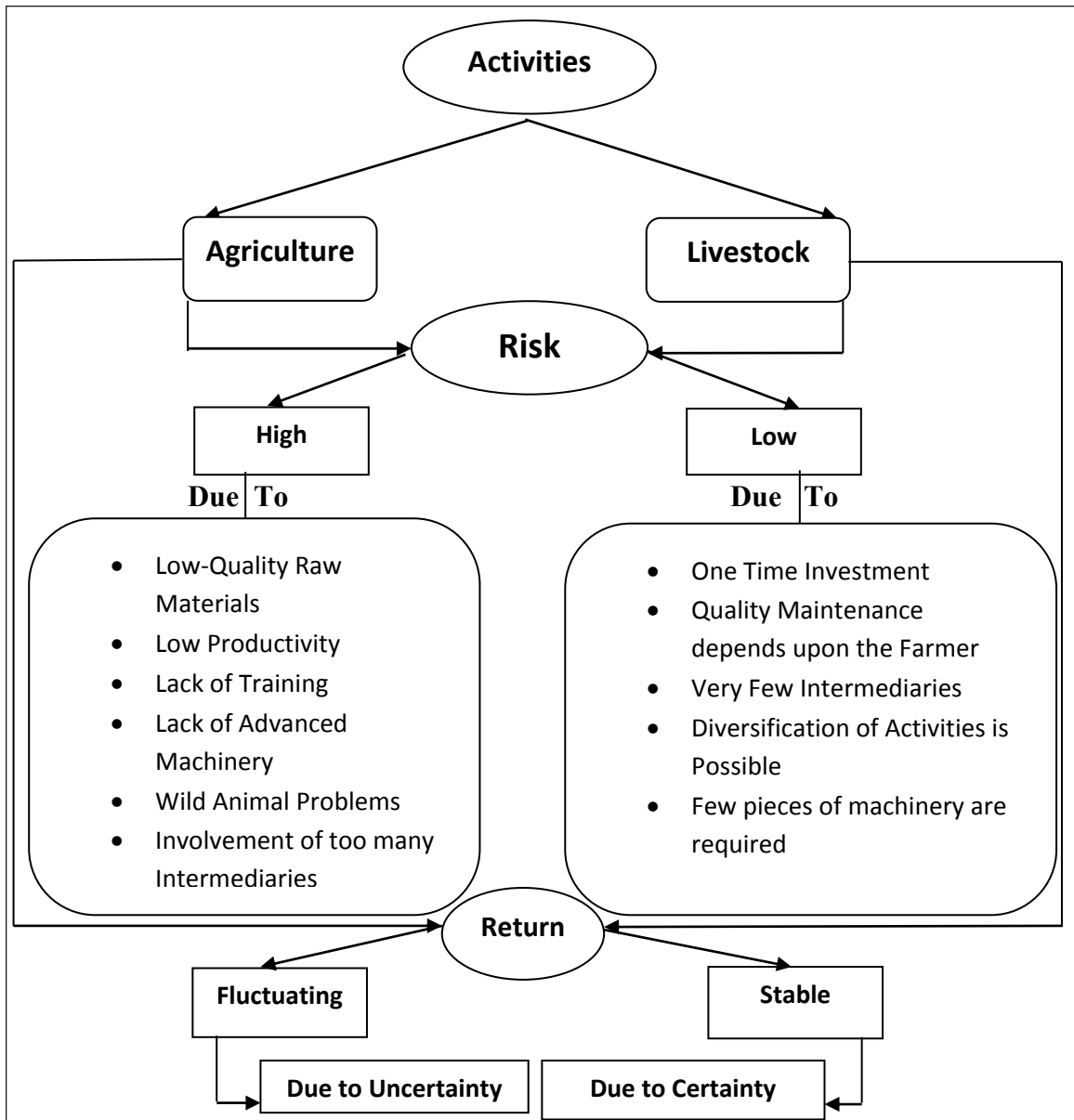
Source: Field Visit by the Author under JICA Project.

Table 4 reveals that the year-wise total inflows from the agricultural activities were Rs. 19956812146, Rs. 19956811999 and Rs. 19956811999 respectively. At a 5% discount rate, the present value for the year 2017 was Rs. 19006867888, for 2018 Rs. 18100828483, and for 2019 Rs. 17238659179 respectively. The Net Present Value for the agricultural activities was found at 20798225876. On the other hand, the year-wise total inflows from the livestock-related activities were Rs. 43690656680, Rs. 43691035980 and Rs. 43691794580 respectively. The present value for the livestock activities at a 5% discount rate was found as Rs. 41610981422, Rs. 39627769634 and Rs. 37740972158 respectively. The Net Present Value for the livestock-related activities was calculated as 87302308214 which was much higher than the agricultural activities. Both the activities have positive NPV and both could be considered by the households but livestock-related activities have high NPV in comparison to agriculture-related activities. So as per the Net Present Value method of investment criterion, livestock-related activities will be more beneficial to the farmers because it has high NPV. Livestock-related activities will provide more return to the households and as a result, enhance their living standards and purchasing power. As the purchasing power increased the economic conditions will also boost.

### Interpretation of Questionnaire Data

In this study, a questionnaire was used to collect useful data regarding the investment pattern, investment,

risk and return. The data reveals that suitability and resource availability, risk and return play a significant role in the investment decision of the farmers. For instance, a farmer who has plenty of resources for agricultural activities may invest his money in agricultural activities and if he/she has a low level of resources then his/her investment preference may be in livestock activities. The data reveals that agricultural activities are riskier in comparison to livestock-related activities due to various reasons. For instance, low raw material quality, lack of training etc. is some of the reasons for the same. Climatic conditions also play a crucial role in agriculture. On the other hand, farmers said that livestock-related activities are more beneficial for them in order to earn a stable monthly income. This is due to low-risk factors like diversification is possible, very few intermediaries are involved in the business, Low machinery/equipment required etc. During the focused group discussion (FGDs) the researcher observes that the farmers are willing to invest in both the activities based on certain conditions. For instance, in order to conduct agricultural activities, farmers required support from the Government i.e. resource availability, training facility, subsidy and minimum support price for their crops etc. Most of the farmers have already engaged themselves in livestock activities and they want to extend such activities if there is support from the Government and other agencies like NGOs. The following figure depicts the comparison of the risk and returns profile of these 2 activities.



Source: Author

**Fig. 3**

Fig. 3 shows that agricultural activities possess high risk and fluctuating return whereas livestock-related activities have a low risk and stable return profile. Agricultural activities have high risk due to several factors like unable to procure high-quality raw materials, low productivity, lack of training facilities, lack of advanced machinery or equipment, wild animal problems, too many intermediaries in the selling process etc. There was uncertainty as well in the agricultural activities due to which the return of the farmers will fluctuate. The return depends upon

several parameters such as climate conditions, market conditions, government policies etc. On the other hand, the livestock-related activities have low risk due to factors like one-time investment, quality maintenance depends upon the farmer, very few intermediaries involved in the selling process, diversification of activities is easy i.e. one can purchase cow or goat or both, equipment requirements are minimum etc. The livestock activities produce a stable income for the farmers due to the high demand for their products like milk, curd, ghee, cheese etc.

## Result

In this study, we found that livestock-related activities will have more benefits for the farmers instead of agriculture-related activities. This is because agriculture-related activities involve more investment and produce less return to the farmers. On the other hand, livestock-related activities involve less investment in comparison to agriculture-related activities and produce more return to the farmers. The net present value method of investment criterion also suggests that livestock activities will be more beneficial for households. Livestock activities involve one-time investment for a longer period whereas, agricultural activities involves every year investment. However, in some activities, livestock also involves every year investment (i.e. cattle feed for animals etc.) but in Uttarakhand, plenty of natural resources are available for such kinds of investments. The study also reveals that agricultural activities have fluctuating return profiles and livestock activities have a stable monthly income for the farmers. Therefore, the livestock activities are more suitable for the improvement of living standards of the farmers, their purchasing power and improvement in the rural economy of the state. However, the government may also provide essential resources regarding agricultural activities to the farmers in order to promote such activities in the state.

## Discussion and Conclusion

In Uttarakhand agriculture and livestock farming, both play an important role in the life of the farmers. As per the analysis of collected data livestock-related farming activities will be more beneficial for the farmers instead of agricultural activities. There are several challenges in agricultural farming in the villages of Uttarakhand that's why farmers shift them from agricultural farming to livestock farming. These problems may include wild animal problems, irrigation problems, less familiarity with organic farming, market unavailability etc. Such problems are not present in the case of livestock-related farming activities. Another important reason for the preference of livestock-related farming is that it involves one-time investment for a longer period whereas, agricultural farming needs to invest every year. Another

important thing is to livestock farming households may produce some value-added products such as Ghee, Curd etc which provide them additional benefits. They utilise such value-added products not only for own consumption but also for selling purpose as well. However, there are some serious issues associated with livestock farming such as the impact on climate, forest degradation etc. but every activity has its own advantages and limitations.

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