RESEARCH ARTICLE

INPUT MANAGEMENT OF RESOURCES BY FARMERS IN PURI DISTRICT, ODISHA, INDIA

Smruti Ranjan Mohapatro[1], B.P. Mohapatra[2], Ajay Kumar Prusty[3] and Sandeep Rout*[4]

[1]Agro-polytechnic Centre, Boudh, Odisha University of Agriculture and Technology -762026, Odisha, India
[2]Department of Extension Education, College of Agriculture, Odisha University of Agriculture and Technology, Bhubaneswar, Odisha-751003, India
[3]M.S.Swaminathan School of Agriculture, Centurion University of Technology and Management, Paralakhemundi, Odisha-761211, India
[4]Faculty of Agriculture, Sri Sri University, Cuttack, Odisha-754006, India
Email: sandeeprout1988@gmail.com

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Abstract: A study was carried out in Puri district of Odisha. Multi stage and proportionate stratified random sampling technique was followed to select the sample size of 142 farmers. The study reveals that the nature of use of livestock produce was 65%, Control on the land resource was 85% and no full control on labour, usefulness of Land was 100%, Knowledge on efficient use of saving 72%, timely availability of crop produce was 33%, 72.6% agricultural produce were conserved for future use and farmers' own decision on animal produce was 68%. The resource use pattern of the farmers can be used for identifying the availability of resources to the farmers and the resources delivery to the farmers can be improved for development of agriculture in the region.

Keywords: Crop, Farmer, Management, Nature, Resources

INTRODUCTION

Conventional farming resources include land, labor and capital. Land classically represents the physical possessions owned by the farmer for cultivation, structure such as store house and agricultural machineries. Labor is the manpower used through the cultivation turning physical resources into agriculture produce. Capital represents the cash use to purchase physical resources and pay for the labor used in the cultivation. Resource management separates resources according to the diverse farming practices currently being practiced on by the farmer. Resources are naturally made up of various components; these components use economic resources owned by the producer. Producers are responsible for ensuring the cultivation practices have enough economic resources to be completed in a timely manner. A resource is a source or supply from which benefit is produced. Typically resources are materials, energy, services, staff, knowledge, or other assets that are transformed to produce benefit and in the process may be consumed or made unavailable. Benefits of resource utilization may include increased wealth, meeting needs or wants, proper functioning of a system, or enhanced wellbeing. From a human perspective a natural resource is anything obtained from the environment to satisfy human needs and wants. From a broader biological or ecological perspective a resource satisfies the needs of a living organism. Keeping in view of the importance of study, resource management is the efficient and effective deployment of an organization's resources when they are needed. Such resources may include financial resources, inventory, human skills, production resources, or information technology.

MATERIALS AND METHODS

The study was carried out in Puri district of Odisha, India. Multi stage and proportionate stratified random sampling technique was followed to select the sample for the study. A preliminary survey of the selected Villages was carried out from which 142 respondents were selected on proportionate random basis. An Interview schedule was developed with item related to management of resources. The data were collected, tabulated and analyzed by using statistical tools like Percentage, Mean Score, Standard deviation, Rank order, Gap percentage, Pearson's co-efficient of correlation and Critical ratio.

Gap (Score gap): It is the difference between maximum obtainable score and obtained score value for a given variable, when expressed in percentage it was called gap percentage.

Gap percentage (Gap %) = (Maximum score – Obtained Score) / Maximum score X 100

RESULTS AND DISCUSSION

Resource management behavior assists farmers maintaining a competitive edge in the farming environment. Many farmers have a limited amount of resources to use when producing various items.

*Corresponding Author

Resource management behavior ensures farmers find ways to eliminate waste, improve the production process, train workers on effective and efficient processes and limit the amount of overpayment for economic resources. Farmers also use resource management to plan for future goals and objectives that can be achieved by the cultivation. The study of different aspects of management of resources by farmers is mentioned in table 1.

Table 1. Nature of use of resources

Sl. no.	Nature of use of resources	Full use		Partial use		Negligible		Gap %
		F	%	F	%	F	%	
1	Crop land	83	58	38	27	21	15	18.8
2	Wasteland	38	27	84	59	20	14	29.1
3	Pond	75	53	44	31	23	16	29.25
4	Orchard	34	24	37	26	71	50	**58.17**
5	Agri-produce	77	54	58	41	7	5	16.9
6	Livestock produce	93	65	28	20	21	15	22.7
7	Credit	56	39	32	23	54	38	**45.5**
8	House labour	37	26	48	34	57	40	**38.07**
9	Savings	82	58	27	19	33	23	30.225

As revealed from the table 1, majority of the sample farmer made full use of the crop land, pond, agri-produce, livestock produce & savings. 58% of the sample farmer never left their land barren indulging in crop rotation and multiple cropping and thereby made full use. 53% of the sample farmer made full use of pond by practicing pisciculture and also used the pond water for irrigating the crop. A total of 54% of the sample farmer made full use of their agri-produce by keeping some amount for own consumption, remaining they sold in market as such or in processed form. 65% of the sample farmers made full use of livestock produce like milk or meat by selling it in market as such or in processed form such as milk by-products. 58% of them made full use of their savings as they purchased the agricultural inputs with it. However, a maximum gap% of 45.5% was seen in use of credit as they didn't use it solely for agriculture purpose and diverted the credit for other purposes. A gap% of 58.17% was seen in case of making use of orchard, which revealed that the sample farmers' use of orchard resources is not satisfactory.

Table 2. Control over resources

Sl. no.	Resources	Full control		Partial control		No control		Gap %
		F	%	F	%	F	%	
1	Labour	0	0	93	65	49	35	**44.8**
2	Credit	8	6	43	30	91	64	**52.8**
3	Savings	42	30	77	54	23	16	28.9
4	Land	85	60	37	26	20	14	18.56
5	Crop produce	39	27	81	58	22	15	29.5
6	Animal produce	73	51	33	23	36	26	24.78

The data from the table 2 revealed that 60% of the sample farmer had full control over the land resources and 51% had full control on animal produces. However only 6% of them had full control on credit sources and those farmers are the big farmers of the village. A maximum gap % of 52.8% was seen in case of credit revealed that majority of farmers had no control over the flow credit i.e. from where the credit availed and how to use the credit to make its fullest possible use. In case of labour also a gap % of 44.8% which revealed that considerable portion of the sample farmer lacked control over labour resources. The reason behind it was dependent on own as well as borrowed source which made its availability quite uncertain. The results are in alignment with the findings with Meena *et al.* (2020).

Table 3. Farmer's opinion on usefulness of resources

Sl. no.	Resources	Very useful		Somewhat useful		Not so useful		Gap %
		F	%	F	%	F	%	
1	Labour	87	61	52	37	3	2	13.6
2	Credit	93	65	38	27	11	8	14.1
3	Savings	11	78	31	22	0	0	7.3
4	Land	142	100	0	0	0	0	0
5	Crop produce	122	86	20	14	0	0	4.7
6	Animal produce	73	51	43	30	26	18	**22.32**

The data in the table.3 revealed the sample farmers' perception regarding the usefulness of resources. The entire sample farmer opined that, land was very useful, as without land there will be no farming and ultimately no farmer. As per the view of 86% of the sample farmer crop produce was very useful as it provided them the income from the investment, which would help to fulfill their needs, for sustenance of family and also generate capital for next crop season. For 78% of the sample farmer savings was very useful as savings would provide them with financial strength and lower the dependence upon credit. 65% of the sample farmers viewed credit as very useful because at any point of production farmer may need it for purchasing the inputs which cannot be met with savings of the farmer. A maximum gap % of 22.32% of was seen in case of animal produce which revealed that the sample farmer didn't consider animal produce as very useful. The reason behind it may be lack of knowledge about efficient use of animal produce.

Table 4. Farmers knowledge on efficient use of resources

Sl. no.	Resources	Optimum knowledge		Manageable knowledge		Less knowledge		Gap %
		F	**%**	**F**	**%**	**F**	**%**	
1	Labour	76	53.5	44	31	22	15.5	20.68
2	Credit	80	56	33	23	29	21	**72.1**
3	Saving	102	72	22	15.5	18	12.5	13.63
4	Land	36	25	85	60	21	15	29.8
5	Cop produce	72	51	33	23	37	26	25.1
6	Animal produce	33	23	48	34	61	43	**39.93**

Unless the farmer feels competent they cannot venture to command over resources. Therefore they should have good knowledge about the efficient use of resources. The data in the table 4 revealed that 72% of the sample farmer had optimum knowledge about efficient saving which helped them to properly allocate the saving to meet not only the production need but also other family expenses. 51% of the sample farmer had optimum knowledge on efficient use of crop produce which include marketing of produce, value addition of the produce and further processing of the produce to fetch a good price. Similar results were also reported by Prusty *et al.* (2020) regarding knowledge level of farmers towards land preparation, transplanting, fertilizer management, water management and weed management which were high. The results are also in alignment with the findings of Pagaria and Ram (2020).

However a maximum gap % of 72.1% was seen in knowledge of efficient use of credit followed by 39.9% in case of animal produce, which revealed that they had less knowledge in efficient use of credit and efficient use of animal produce. However efficient use of credit requires the skill need prioritization which will help to allocate the scarce resource to derive maximum benefit. Similarly knowledge of efficient use of animal produce include preparing bio-products of milk like cheese, ghee, curd etc or preparing cow dung cake or preparing FYM or generating bio-gas generate higher income for the farmers and uplift their living of standard.

Table 5. Timeliness of availability of resources

Sl. no.	Resources	Timely available		Somewhat available		No timely available		Gap %
		F	%	F	%	F	%	
1	Labour	18	13	27	19	97	68	**51.9**
2	Credit	38	27	44	31	60	42	38.5
3	Savings	40	28	57	40	45	32	34.5
4	Land	27	19	78	55	37	26	35.7
5	Cop produce	47	33	78	55	17	12	26.3
6	Animal produce	31	22	43	30	68	48	**42.06**

Agricultural activities are time bound and delay in the operations may hamper the yield and ultimately lower the income. So timely availability of resources is very much necessary for carrying out farm operation. It was observed from table 5 that for 33% of the farmer crop produce was timely available for 22% animal produce was timely available. Timely availability will ensure good marketing and ensure a good income for farmers. A gap % of the 42.0% was seen in case of animal produce. It can be concluded that the income from animal produce will be low as the animal produce may have perished. A maximum gap % of 51.9% was seen in case of labour which is most important for carrying out labour intensive operation timely. A gap % of 38.55% was seen in credit revealed that credit was not timely available which is the most important factor of production otherwise all activities would come to a halt (Table.5).

Table 6. Conservation of resources

Sl. no.	Resources	conserved for future use		Partially conserved		Not conserved		Gap %
		F	%	F	%	F	%	
1	Agri produce	103	72.6	37	26.4	2	1	9.6
2	Livestock produce	32	23	27	19	83	58	45.35
3	Savings	72	51	41	29	29	20	23.26
4	Any other	42	30	52	37	48	34	34.78

Resource conservation is an important practice for the farmers' weather it may be agricultural produce or livestock produce or savings or any other. The data in the table 6 revealed that 72.6% of the farmers conserved the agricultural produce for future use that is to use it for family consumption or selling it in the market when the price is high or for any other purpose. 51% of the farmers used their savings for future use, 23% conserved the livestock produce for future use (Table.6). However, a maximum gap % of the 45.35% was seen in case of livestock produce. The reason behind it was the perishability of milk produce forcing them not to conserve it for chain facility. This was in alignment with Bogale *et al.* (2008) who reported that crop residues are one of the major feed resources for livestock.

Table 7. Decision Making on Resource

Sl. no.	Resources	Own decision		Family decision		Joint decision		Gap %
		F	%	F	%	F	%	
1	Labour	83	58	37	26	22	15	19.03
2	Credit	25	18	90	63	27	19	**33.8**
3	Savings	57	40	42	30	43	30	30
4	Land	73	51	38	27	31	22	23.5
5	Crop produce	88	62	29	20	25	18	18.5
6	Animal produce	97	68	38	27	7	5	12.22

Decision making leads to empowerment of a person. However exercising own decision about resources will help a person achieve full control over it. It was observed from table 7 that 58% of the farmer took decision independently about labour, 40% of them about savings, 68% about animal produce and 62% of them about crop produce. However for decision regarding credit and land decisions were taken by family (Table. 7). A maximum gap % of 33.8% was observed in decision making for credit followed by 30% in savings and 23.5% in land. The pattern of resource use in large forms needs some modifications, particularly applications of bullock-labour, expenditure on tractor, human-labour and pesticides and other plant protection methods may be increased (Reddy and Reddy, 2014).

CONCLUSION

It can be concluded from the study that the nature of use of livestock produce (65%) and crop land (58%) were found to be high. Control on the land resource (85%) was high when there was no full control on labour. Usefulness of resources was highest for Land (100%) followed by crop produce (86%). Knowledge on efficient use of resources was highest in saving (72%). Among all resources timely availability of crop produce (33%) was highest. 72.6% agricultural produce were conserved for future use. The farmers own decision on animal produce (68%) was highest. The resource use pattern of the farmers can be used for identifying the availability of resources to the farmers and the resources delivery to the farmers can be improved for development of agriculture in the region.

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