ISSN: 2230-9926

Available online at http://www.journalijdr.com

IJDR

International Journal of Development Research
Vol. 07, Issue, 09, pp.15527-15529, September, 2017

ORIGINAL RESEARCH ARTICLE OPEN ACCESS

IMPACT OF CLUSTER APPROACH ON TURMERIC CULTIVATION- A STUDY IN GOALPARA DISTRICT, ASSAM

***Krishnakhi Choudhury and Dr. Kalita, D.C.**

Department of Rural Development and Agriculture Production (RDAP), School of Human and Environmental Sciences, North Eastern Hill University, Tura Campus, Meghalaya

ARTICLE INFO

Article History:
Received 13th June, 2017
Received in revised form
14th July, 2017
Accepted 17th August, 2017
Published online 30th September, 2017

Keywords:

Cluster based Approach,
Empowerment,
Employment Generation.

****Corresponding author***

ABSTRACT

In this paper an attempt was made to study the Impact of cluster approach on turmeric cultivation in Goalpara district, Assam. The study was conducted in Balijana block of Goalpara district of Assam covering a total of 140 samples of turmeric growers which consist of 70 each under individual and cluster turmeric growers. The impact of cluster approach on was measured by the difference of income and employment of cluster turmeric growers and individual turmeric growers. The significance of difference was done by applying T-Test. India is the largest producer, consumer and exporter of turmeric which constitutes 82% of world production followed by China, Myanmar and Bangladesh. Similarly the production of turmeric in Assam was 15583 tons with an area of 16309 ha in 2012-13 which has increased to 15906 tons with an area of 16244 ha in 2014-15. Cluster based approach is one of the process which can lead to empowerment and employment generation of women. For employment generation government has introduced various plans and policies at central and state level. Consequently there has been considerable growth of rural women in the state of Assam through Self-Help Group and clustering process. In this paper an attempt is made to study the trends of turmeric cultivation as employment generation of women through cluster based approach in Assam.

Citation: Krishnakhi Choudhury and Dr. Kalita, D.C., 2017. "Impact of cluster approach on turmeric cultivation- A Study in Goalpara district, Assam", *International Journal of Development Research*, 7, (09), 15527-15529.

INTRODUCTION

Turmeric is known as the king of spices, and it is said that this spice belongs to India and also called 'Indian Saffron'. India is the largest producer, consumer and exporter of turmeric which constitutes 82% of world production followed by China, Myanmar and Bangladesh. It occupies about 6% of the total area under spices and condiment products in India. In the year 2008-09 the production was 94.59 thousand tons under 195.07 thousand ha. of land which increased up to 973.09 tons under 192.91 thousand ha of land (Spice board of India- Annual report 2012-13). Similarly the production of turmeric in Assam was 15583 tons with an area of 16309 ha in 2012-13 which has increased to 15906 tons with an area of 16244 ha in 2014-15 (Government of Assam, Directorate of economics and statistic, 2015). Turmeric is a valuable cash crop for cultivators as it is a ready cash crop and contributes to national economy as one of the major export commodities. The increase in production is possible mainly through improvement in productivity of the crop that could be achieved by efficient utilization of available resources. As per 2010-11 turmeric production in North Eastern region is 6400.2 tons under 22,848 ha of land. Assam is endowed with diverse agro-climatic conditions, which permit growing of wide range of horticultural crops including spices and condiments. Horticulture crops cover an area of 5.75 lakh hectares which account for 14.04 per cent of the total cultivable area of 40.99 lakh hectares in the state in the year 2011-12 (NEDFI).

Concept of Cluster based approach

Concerned over low agricultural growth rate and low levels of farm income, the Union agricultural ministry is working towards a plan to introduce cluster-based farming in the

country. The cluster-based approach is aimed at forming a consolidated cultivable holding dedicated to specific food grains, vegetables, spices and condiments, fruits and other horticulture crops (Dixit *et.al*. 2013). Cluster approach has the potential to contribute immensely as it involves organized effort for collective production and sharing of knowledge and available resources. The cluster concept has gained prominence as an economic policy tool aimed to foster innovation and the growth of a competitive private sector in developing countries. A cluster consists of firms and related economic actors and institutions that draw productive advantage from their mutual proximity and connections. Over the last 2-3 decades, clusters approach has drawn substantial interest from policy makers, legislatures, business leaders, academics, economic development practitioners and development agencies (Irshad, 2009). Cluster based policy aims at removing the imperfections of innovation system by enabling them to function more efficiently and avoid coordination failures. Cluster approach has been implemented by various NGOs in various areas of Assam but not much information is available for comparative analysis. The concept of collective production has also been implemented under various projects of NABARD and NRLM. In Assam the objective of collective production has been established by NABARD and NRLM through the formation of SHGs in grassroots level.

Objectives of the study

- To understand the impact of cluster approach on turmeric cultivation.

MATERIALS AND METHODS

The present study was conducted in Goalpara district of Assam covering a total 140 sample turmeric growers. Out of 140 sample turmeric growers, 70 each belong to individual and cluster turmeric growers.

The samples were selected by using random sampling procedure. The selected turmeric cultivator then stratified into three groups based on the area under turmeric cultivation viz., Group I (0-1.0 ha), Group II (1.01 to 2.00 ha) and Group III (2.01ha and above). The study mainly based on primary data which was collected by using survey schedule through the personal interview method of sampling. The impact was measured by the difference of income and employment of cluster turmeric growers and individual turmeric growers. The significance of difference was tested by applying T-Test. The standard of living of people was measured by applying by Sen's P Measure and Head Count Ratio which is discussed below: **Sen's P Measure:** The livelihood standard of farm households was determined by Sen's Poverty Measure (P) (Raju, *et al*., 1988) using the following model:

$$P = \frac{2}{(Q + 1)nz} \sum (Z - Yi)(Q + 1 - i)$$

Where,

P = Measure of poverty
n = Population size
Yi = Income of ith individual arranged in ascending order of magnitude
Z = The poverty level of income

Head Count Ratio: Head Count Ratio was also estimated for the sample households under clustered and non-clustered group. The following formula was used:

$$H = Q / n$$

Where,

H = Head Count Ratio
Q = Number of households below poverty line under settled and turmeric cultivation
n = Total number of households under settled and shifting cultivation

Table 1. Income Generation due to Cluster approach in Turmeric Cultivation

Size group	Income of Individual Turmeric Grower	Income of Cluster Turmeric Grower	Difference of income	Percentage increase in income
Group I	82169.57	78562	-3607.57 (4.59)	5.97*
Group II	81789.04	88785	6995.96 (8.55)	6.34*
Group III	61923.08	65250	3326.92 (5.37)	31.09*
Average	75293.90	77532.33	2238.44 (2.97)	14.47*

Note: * significant at 5% probability level

Table 2. Employment Generation due to Cluster approach in Turmeric Cultivation

Size group	Employment of Individual Turmeric Grower	Employment of Cluster Turmeric Grower	Difference of Employment	Percentage increase in Employment
Group I	17.33	39.33	22.00 (126.95)	55.94*
Group II	36.33	39.47	3.14 (8.64)	7.96*
Group III	13.33	4.00	-9.33 (69.99)	-233.25
Average	22.33	27.60	5.27 (23.60)	19.09*

Note: * significant at 5% probability level

Table 3. Results of poverty measures of individual turmeric grower across various size groups of turmeric growers

Particulars	Group-I	Group-II	Group-III	All
Head count ratio	36.67	27.78	25.00	29.82
Sen's Poverty Measure	0.45	0.38	0.35	0.39

Table 4. Results of poverty measures of cluster turmeric grower across various size groups of turmeric growers

Particulars	Group-I	Group-II	Group-III	All
Head count ratio	30.00	25.00	0.00	18.33
Sen's Poverty Measure	0.41	0.35	0.31	0.36

RESULTS AND DISCUSSION

Impact of cluster approach on Income and Employment of turmeric growers

The impact of cluster approach on was measured by the difference of income and employment of cluster turmeric growers and individual turmeric growers. The significance of difference was done by applying T-Test. The results are discussed below:

Impact of cluster approach on Income:

The impact of cluster approach on income of turmeric growers is presented in table 1. The table reveals that the income of cluster turmeric growers was increased by 2.97 per cent over the individual turmeric growers in the average farm situation. This was found to be highest in group-II farm (8.55 per cent) and lowest in group-III farm (5.37 per cent). However, decrease in income of cluster turmeric growers was found to be observed in case of group-I farm which was mainly due the fact of less land resources allocated under group-I farm. All the increase in income of cluster turmeric growers over the individual turmeric grower was statistically significant at 5 per cent probability level.

Employment Generation due to Cluster approach in Turmeric Cultivation

The impact of cluster approach on employment generation of turmeric growers is presented in Table 2. The table reveals that the employment of cluster turmeric growers was increased by 23.60 per cent over the individual turmeric growers in the average farm situation. This was found to be highest in group-I farm (126.05 per cent) and lowest in group-II farm (8.64 per cent). However, decrease in employment of cluster turmeric growers was found to be observed in case of group-III farm which was mainly due the fact of less sample size under group-III farm. All the increase in employment of cluster turmeric growers over the individual turmeric grower was statistically significant at 5 per cent probability level. Thus the above results highlighted that there was an impact of cluster turmeric approach on income and employment of turmeric growers. All the increase in income and employment of cluster turmeric growers was statistically significant at 5 per cent probability level. The impact of cluster Approach on standard of living of turmeric growers was also measured by using Sen's Poverty Measure and Head count ratio.

Sen's Poverty Measure and Head count ratio

Table 3 and 4 revealed the proportion of turmeric growers below the poverty line under individual and cluster turmeric growers. It has observed from the tables that percentage of turmeric growers lying below the poverty line was of the order of 39 and 18.33 per cent under individual and cluster turmeric growers respectively.

Amongst the size groups of farms, the proportion of turmeric growers below the poverty line based on Sen's Poverty Measure value under individual and cluster turmeric growers was found to have decreased with the increase in farm size. This might be due to higher income generated in lager farm size group. Further, the tables revealed that the standard of living of turmeric growers under cluster turmeric growers was better than that of individual turmeric growers. The above findings can also be supported by the results of head count ration analysis. Head count ratio is the ratio of the number of turmeric growers below the poverty line norm to the total number of sample turmeric growers. The results of the head count ratio analysis depicted that about 29.82 and 18.33 per cent of the sample turmeric growers under individual and cluster turmeric growers were poor. Amongst the size groups of farms, the proportion of turmeric growers below the poverty line based on head count ratio analysis under individual and cluster turmeric growers was found to have decreased with the increase in farm size. This might be due to higher income generated in lager farm size group. The tables also revealed that the standard of living of turmeric growers under cluster turmeric growers based on head count ratio was better than that of individual turmeric growers.

Conclusion

The above results highlighted that the income and employment was more under cluster turmeric growers as compared to individual turmeric growers which was statistically significant. Further, the standard of living of cluster turmeric growers was above than individual turmeric growers as indicated by poverty level percentage.

REFERENCES

Dixit, S., Gopinath, K.A., Kiran, L.U. and Anuradha B., 2013. Linking markets for better income. *Leisa India*, 15(2): 9.

Dubey, R., Patel, A., Chourasia, A.K. and Gokhale, M. 2013. Devpasli, A tribal farmers' cooperative. *Leisa India,* 15(2): 9.

http://databank.nedfi.com/content/horticultural-crops-0. Accessed on: 13.08.2016.

http://www.indianspice.com/sites/default/files/majoritemwiseExport2016/pdf. Accessed on: 13.08.2016.

Irshad, H. 2009. Cluster- A key to rural prosperity, Rural Development Division, Government of Alberta.

Jha, A.K. and Deka, B.C. 2012. Present status and prospects of ginger and turmeric in NE States. PP: 4.

Mohammad, A., Raza, U., Iqtidar, M., Wagar, M., Mehboob, I. and Hamid, S. 2014. Impact of microcredit scheme on socio-economic status of farmers: A case study of PRSP in Gujranwala district. *South Asian Studies,* 29(1).

Nandeesa, P., Sanjeev, R. and Hopper, R.S.S. 2013. Farmer producer organisations. *Leisa India,* 15(2): 6.

Panwar, S. 2011. Agri min working towards cluster- based farming, article published in Buissness Standard newspaper, New Delhi/ Lucknow, Feb 2011.

****