



ROLE OF MIXED FARMING FOR SUSTAINABLE LIVELIHOOD OF SMALL AND MARGINAL FARMERS IN WESTERN MAHARASHTRA

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ARTICLE INFO

Article History:

Received 15th October, 2018

Received in revised form 7th

October, 2018

Accepted 13th December, 2018

Published online 28th January, 2019

Key words:

Mixed farming, sustainable livelihood, per capita income

ABSTRACT

The paper attempts to examine the economic viability of small and marginal farmers in Western Maharashtra and suggest ways to achieve economic sustenance. The study is based upon primary data collected from 96 farm households representing different farm size classes, selected from scarcity region of Western Maharashtra. The study has shown that agriculture is not able to provide sustenance to a large number of small and marginal farmers in the Western Maharashtra. The marginal farmers earn only 37 per cent of income from agriculture and 48 per cent from non-agriculture activities. The per-day per-capita income from agriculture has been found to be Rs.16 for marginal farmers, Rs. 34 for small farmers, Rs. 49 for medium farmers and Rs. 86 for large farmers for 2013-14. The marginal farmers, who constitute over 70 per cent of farmers, fall below the poverty line if they depend solely on agricultural income. Given the inadequacy of agricultural income to meet household expenditure, the small and marginal farmers have to devise livelihood strategy for their survival. The study has suggested a integrated strategy of promoting agricultural and non-agricultural activities in the rural areas embedded in the local conditions, resources and institutions to meet the challenge of sustainable development in the region of state. The study has also suggested for promoting sustainable livelihood for farmers are (i) Increase in agricultural productivity is the key to improving living conditions of farmers and promoting non-farm activities through forward and backward linkages and (ii) Mixed farming should be adopted by the farmers to supplement their income.

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INTRODUCTION

The agrarian structure of India has been undergoing a process of reduction in size of farms and increase in marginalization of holdings for the past several decades. During the period 1960-61 to 2007-08, the proportion of marginal holdings went up (from 39 % to 72 %). The proportion of medium and large holdings declined (from 38. % to 12 %), the percentage of operated area by marginal farmers increased markedly (from 6.9% to 23%) and area under smallholdings increased significantly (from 12.3% to 21 %) at all-India level. Thus, marginal and small holdings accounted for 42 per cent of the operated holdings in 2007-08. On the other hand, there was a sharp decline in the area operated by medium holdings (from 31.2% in 1960-61 to 23% in 2007-08) and large holdings (from 29.0% to 12.0%). The process of marginalization of holdings has been witnessed by all the states in the country, though the extent of marginalization varies from state to state. The proportion of marginal holdings is over 75 per cent in the states of Assam, Bihar, Kerala, Odisha, Tamil Nadu, Uttar Pradesh and West Bengal (Singh, 2011).

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The above changes in the agrarian structure of India have far reaching implications for agricultural growth and poverty alleviation. The small land base of the Indian farmer is one of the major factors contributing to rural poverty. The analysis of NSS data has shown that rural poverty is related to land ownership. In 2004-05, the poverty ratio for all farmers was estimated to be 15.2 per cent, with 22.0 per cent among landless farmers, 20.0 per cent among sub marginal farmers, 18.1 per cent among marginal farmers, 14.8 per cent among small farmers and 9.8 per cent among medium and large farmers (Chadha, 2008). The correlation coefficient between the proportion of marginal holdings and rural poverty at the state level was 0.41, whereas that between the proportion of marginal and small holdings and rural poverty ratio was 0.46 (Singh, 2011). The marginal and small Assistant Professors of Agricultural Economics, College of Agriculture, Pune (Maharashtra) holdings, even if having a high productivity levels, are not able to generate sufficient income to sustain the farm households.

METHODOLOGY

For the study, multistage stratified random sample design was adopted. At the first stage, two districts were selected from

scarcity region of Western Maharashtra. From each district two tahsils were randomly selected from scarcity region. From each tahsil two villages were selected randomly. From each village, 24 farm households were selected randomly representing different farm size classes. Thus, the total sample consisted of 96 farm households. Out of the total farm households surveyed, 30 per cent were marginal farmers, 25 per cent were small farmers, 25 per cent were medium farmers and 20 per cent were large farmers. The details on households, cropping pattern, yield and income from farming and other sources were collected through a survey method for the year 2013-14.

RESULTS

Household Income by Land-Size Category

The annual income of farm households from different sources by farm-size categories is depicted in Table 1.

The annual income from agriculture and allied activities during 2013-14 has been estimated to be Rs. 54300 for marginal farmers, Rs. 1,10011 for small farmers, Rs.1,49995 for medium farmers and Rs. 2,79570 for large farmers. The total annual income per farm household from all sources was worked out to be Rs.104380, Rs.1,57456, Rs. 2,09659 and Rs. 3,66616 respectively for these four farm-size categories. Thus, the annual income of a medium farmer was more than two-times and of a large farmer was nearly three and half times to that of a marginal farmer. Significant differences have been observed across sources of income in different farm-size categories (Table 1). The marginal farmers have been found to earn only 37 per cent of income from agriculture. This proportion goes up to 54 per cent for small farmers, to 61 per cent for medium farmers and 71 per cent for large farmers. Livestock contribute 15 per cent of income on marginal and small farms and only 5 per cent on large farms. This shows that as land size increases, agricultural income increases, while livestock income decreases.

Table 1 Land-size wise annual income of farm households by source categories in Western Maharashtra (Rs./annum)

| Source of income | Marginal farmers | Small farmers | Medium farmers | Large farmers | All farmers |
|---------------------------------|------------------|---------------|----------------|---------------|-------------|
| Agriculture | 38250 | 85411 | 127545 | 260120 | 511326 |
| Livestock | 16050 | 24600 | 22450 | 19450 | 82550 |
| Agriculture & allied activities | 54300 | 110011 | 149995 | 279570 | 593876 |
| Industry and trade | 1680 | 4560 | 8580 | 3540 | 18360 |
| Wages | 16900 | 4645 | 3054 | 310 | 24909 |
| Service | 20300 | 22820 | 27600 | 59450 | 130170 |
| others | 11200 | 15420 | 20430 | 23746 | 70796 |
| Non-agriculture | 50080 | 47445 | 59664 | 87046 | 244235 |
| Total | 104380 | 157456 | 209659 | 366616 | 838111 |

Non-agricultural sources contribute about half to the income of marginal farmers. This share reduces with increase in farm size; it is around 30.13 per cent for small farmers, 28.46 per cent for medium farmers and 23.74 per cent for large farmers. Wage earnings also contribute a much larger share of income in case of marginal farmers as compared to the other three categories. The share of income from services is also highest for marginal farmers and lowest for medium farmers. It has also been found that dependence on non-farm income is more in the case of marginal farmers.

Table 2 Percentage distribution of annual income of farmers by source and land- size categories in Western Maharashtra

| Source of income | Marginal farmers | Small farmers | Medium farmers | Large farmers | All farmers |
|---------------------------------|------------------|---------------|----------------|---------------|-------------|
| Agriculture | 36.64 | 54.24 | 60.83 | 70.95 | 61.01 |
| Livestock | 15.38 | 15.62 | 10.71 | 5.31 | 9.85 |
| Agriculture & allied activities | 52.02 | 69.87 | 71.54 | 76.26 | 70.86 |
| Industry and trade | 1.61 | 2.90 | 4.09 | 0.97 | 2.19 |
| Wages | 16.19 | 2.95 | 1.46 | 0.08 | 2.97 |
| Service | 19.45 | 14.49 | 13.16 | 16.22 | 15.53 |
| others | 10.73 | 9.79 | 9.74 | 6.48 | 8.45 |
| Non-agriculture | 47.98 | 30.13 | 28.46 | 23.74 | 29.14 |
| Total | 100.00 | 100.00 | 100.00 | 100.00 | 100.00 |

Wage Income

The marginal and small farmers sometimes work as wage laborers on the farms of other farmers. About 3 per cent of household income was derived as wage income from agricultural or non-agricultural labour. The contribution of wage income was much higher in case of marginal farmers than in other categories of farmers. The analysis of income from wages has revealed that about 80 per cent of wage income was derived from non-agricultural labour and only about 10 per cent was from agricultural labour (Table 3).

Table 3 Per household wage income

| Wage income | Annual wage income (Rs.) | Share in total wage income (%) |
|---------------------------------------|--------------------------|--------------------------------|
| Agricultural wages in the village | 1036 | 10.00 |
| Agricultural wages out of village | 171 | 1.65 |
| Non-agricultural wages in the village | 821 | 7.93 |
| Non-agricultural wages out of village | 7228 | 69.78 |
| MGNREGS/other public works | 801 | 7.73 |
| Other works | 302 | 2.92 |
| Total | 10359 | 100.00 |

About 8 per cent wage income was derived from MGNREGS and 3 per cent from other works. While bulk of non-agricultural wage was earned from work outside the village, most of the agricultural wage was earned within the village.

Per Capita Household Income

The per capita household income from agriculture and non-agricultural sources for the sample farms has been shown in Table 4. The per-day income from all sources varied from Rs. 264 for marginal farmers to Rs. 921 for large farmers. It was also found that the average family-size increased with the increase in the landholding size. The per-day per-capita income from all sources was worked out to be Rs.41 for marginal farmers, Rs.60 for small farmers, Rs.78 for medium farmers and Rs. 119 for large farmers. The rural poverty line was computed at Rs. 23 per day for Maharashtra. As compared to this, the per-day per-capita income from agriculture came to Rs.16 for marginal farmers, Rs.34 for small farmers and Rs.49 for medium farmers and Rs.86 for large farmers.

Table 4 Per-day and per-capita income of farm households by farm-size in Western Maharashtra

| Source of income | Marginal farmers | Small farmers | Medium farmers | Large farmers | All farmers |
|---------------------------------|------------------|---------------|----------------|---------------|-------------|
| Per-day household income | | | | | |
| Agriculture | 96 | 214 | 319 | 650 | 179 |
| Livestock | 42 | 65 | 59 | 51 | 49 |
| Agriculture & allied activities | 138 | 278 | 378 | 701 | 228 |

| | | | | | |
|----------------------------------|-----|-----|-----|-----|-----|
| Non-agriculture | 126 | 120 | 151 | 220 | 129 |
| Total | 264 | 398 | 529 | 921 | 357 |
| Per-capita per-day income | | | | | |
| Agriculture | 16 | 34 | 49 | 86 | 27 |
| Livestock | 6 | 9 | 8 | 6 | 8 |
| Agriculture & allied activities | 22 | 43 | 57 | 92 | 35 |
| Non-agriculture | 19 | 17 | 21 | 27 | 18 |
| Total | 41 | 60 | 78 | 119 | 53 |

Thus, all marginal farmers, constituting over three-fourths of the Western Maharashtra farmers, would fall below the poverty line if they solely depend on agricultural income. Even on including income from animal husbandry, they would remain below the poverty line. However, in the case of all other farm size categories, agricultural income was sufficient to keep them above the poverty line. The net income was found to be Rs.35/acre/day on all sample farms. With an average family size of 6, a farm family should have at least 5 acres of land for sustainable livelihood at the present level of productivity. Given the inadequacy of agricultural income to meet the household expenditure, the farmers, particularly the small and marginal farmers, have to devise livelihood strategy for their survival.

Sustainable Livelihood Strategies for Farmers

Since the early-1990s, the concept of sustainable livelihood is dominating the issue of rural development. The concept of sustainable livelihood has been interpreted in various ways (Ellis, 2000). Enhancing income and employment opportunities for farmers and agricultural labourers has always been a major objective of India’s Five-Year Plans since the beginning. A number of strategies have been followed to achieve this objective. Ensuring high agricultural growth and livelihood to farmers in the light of the ever decreasing size of holdings and preponderance of marginal and small holdings is a major policy challenge before the nation. The livelihood promotion strategies have to be linked to the local resource base of the communities, which comprise land resources, water resources, forest resources, livestock resources and local human resources. Scientific management of natural resources is essential for ensuring sustainable development of farm and non-farm activities in the rural areas (Singh, 2010).

Some suggestions for promoting sustainable livelihood for farmers are

1. Increase in agricultural productivity is the key to improving living conditions of farmers and promoting non-farm activities through forward and backward linkages. The strategy of agricultural development should particularly focus on small and marginal farmers.
2. Mixed farming has been traditionally adopted by the Indian farmers to supplement their income. The potential of animal husbandry has not been fully tapped in most of the regions of the country. Scientific management and development of livestock resources need to be promoted in a big way.

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How to cite this article:

Waghmare M.N., Sale Y.C and Kale N.K (2019) 'Role of Mixed Farming for Sustainable Livelihood of Small and Marginal Farmers in Western Maharashtra', *International Journal of Current Advanced Research*, 08(01), pp. 17028-17030. DOI: <http://dx.doi.org/10.24327/ijcar.2019.17030.3173>
