

# Original Research Article

## **Impact of organic cultivation on the livelihood changes of farmers**

### **ABSTRACT**

The study primarily focuses on the livelihood changes among organic farmers those who adopted the organic cultivation practises. The study was carried out in Erode district of Tamil Nadu in all the 14 blocks, with a sample size of 140 respondents of certified organic farmers and simple random sampling method is used. The Quantitative components examine a data from various certified organic farmers before and after organic cultivation, the livelihood variables is found in five capitals such as human capital, social capital, financial capital, physical capital, and natural capital. The findings infer that there is a significant positive change in the livelihood of farmers from the cultivation of crops after the intervention of organic farming practices. So, the adoption of organic agricultural practices has contributed for the livelihood changes among organic farmers.

**Keywords:** Livelihood changes, Certified organic farmers, Organic cultivation

### **1. INTRODUCTION**

Organic cultivation is a traditional method of natural farming without use of chemical pesticides and fertilizers. In organic cultivation, the most important problem is sustainability and ecological stability, which renewed the interest of farmer and researchers in using organic source of nutrient such as panchakavya, jeevamirtha, amirthakaraisal, fish amino acid, 3G extract, neem seed kernel extract, bio-fertilizers and organic manures viz., farmyard manure, vermicompost, poultry manure, goat manure and green manure. In order to know the organic farmers livelihood assets, their conversion and the ability to use their assets. This can not only provide the livelihood information about the farmers but also play an important role in promoting an organic farming and the growth of economic development.

Organic cultivation will change the livelihood of the certified organic farmers by the combination of livelihood capitals, for good health status of farmers, increasing the household materials, capital stocks and the assets were likely to increase the interest of farmers by practising the organic cultivation. Therefore it is necessary holistic perspective on

the difference of certified organic farmer's livelihood changes in both before and after organic cultivation.

Nations Conference on Environment and development (1992) put forward the idea of sustainable livelihoods as an approach to maintain or increase productivity, secure ownership, or the access to these sources and income generating activities as well as to ensure adequate and sustainable flows of food and money to meet basic needs. Additionally, the risk of livelihood failure determines the vulnerability level of a household to income, food, health and nutritional security. So livelihood comprises the capabilities, assets (resources, claims and access) and activities required for a means of living.

This study examines the characteristics of farmers' livelihood capital, activities, and it discusses the variations between farmers' livelihood capital before and after organic cultivation. It is based on the sustainable livelihood analysis framework developed by DFID.

### **Five Capital Assets of Livelihood**

Swati (2016) revealed that majority of the tribal farmers had medium level of livelihoods with higher access towards the financial capital index (62.14%) followed by physical capital Index (60.20%), social capital Index (58.66%), natural capital index (57.56%) and lastly human capital index (48.92%). Similar study with some modification of livelihood changes of organic farmers has been done.

By reviewing literature, discussion with scientists the five capitals was selected for this study.

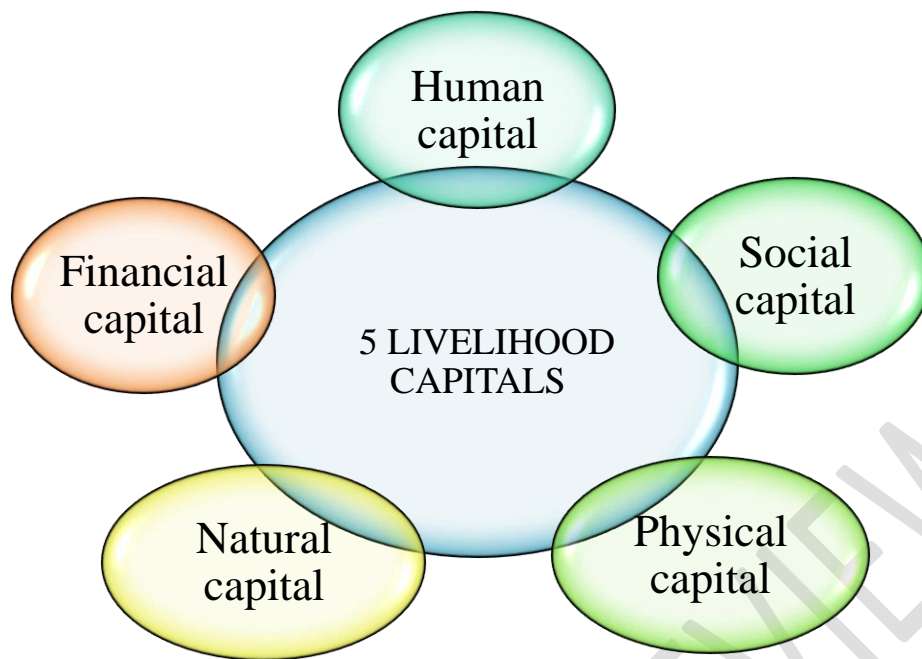


Image 1: 5 livelihood capitals.

Human capital is defined as the stock of skill, knowledge, value, and habits which are embodied an ability to perform labour so as to produce economic value by the way of working experience and skills.

Social capital refers to the social contact ability of organic farmers and degree to which they can obtain help from the friends, relatives and social organizations. It includes contact with extension agency, relationship status with others, and concern towards weaker section.

Physical capital is operationally defined as the primary infrastructure and various resources needed to hold up to support the farmer's livelihood. The resources such as transport, household material, livestock material, type of houses, water facilities and sources for cooking.

Natural capital is the amount of land and kind of farmland that is owned by the organic farmers. The available natural resources such as common land, pastures, pond, fruits, timber and the farming such as soil type, system of cropping, and depth of soil. These are helpful to increasing the income and maximum revenue.

Financial capital is defined as the money, saving, and income which is required assets for people to increase their livelihood.

Based on the above facts, the study on “**Impact of organic cultivation on the livelihood changes of farmers**” was undertaken with the objective, to find out the Livelihood changes of organic cultivation.

## 2. MATERIALS AND METHODS

The study was conducted in Erode district of Tamil Nadu, taking into consideration of certified organic farmers those adopting the organic cultivation practices. All the 14 blocks namely Ammapettai, Anthiyur, Bhavani, Bhavanisagar, Chennimalai, Erode, Gobichettipalayam, Kodumudi, Modakkuruchi, Manbiyur, Perundurai, Sathyamangalam, T.N. Palayam and Thalavadi in the Erode district were selected for this study. Based on the farmers those who practising the organic cultivation, 6 crops are selected for the study namely Sugarcane, Banana, Turmeric, tomato, brinjal and chilli. Using simple random sampling method, 140 respondents were chosen out of 177 organic farmers from all the 14 blocks. The information from the organic farmers was gathered by using a pre tested interview schedule. The overall livelihood changes on the organic farmers were studied under the classification of five capitals such as Human, social, physical, natural and financial capital and the analysis was done by using the Z-test and the findings were interpreted.

## 3. RESULTS AND DISCUSSION

The livelihood changes among the certified organic farmers was measured the livelihood change of both before and after adoption of organic farming. Z-test was used because the sample size was high ( $n > 30$ ) and the sample variance were known while the sample includes comparing two sample means. The result obtained is depicted in the table.

**Table 1. Impact of Livelihood capitals on the organic farmers**

(n=140)

S. No	Category	Mean (Before)	Mean (After)	Z-Value	P-Value
<b>I</b>	<b>HUMAN CAPITAL</b>				
1.	Mass media exposure	5.47	6.76	4.63**	0.00003
2.	Leadership quality	11.3	10.5	4.75**	0.00002
3.	Medical treatment availability	7.95	7.45	1.8 (NS)	0.06

4.	Addictive health behaviour	5.99	5.70	1.74 (NS)	0.081
5.	Labour availability	2.38	2.607	2.07**	0.037
<b>II</b>	<b>SOCIAL CAPITAL</b>				
1.	Relationship status with others	9.97	9.65	2.08**	0.036
2.	Concern towards the weaker section	13.12	13.42	0.82(NS)	0.40
<b>III</b>	<b>FINANCIAL CAPITAL</b>				
1.	Debts	1.75	1.757	0.06(NS)	0.95
2.	Savings	2.46	2.87	4.07**	0.0005
3.	Access to bank per year	2.07	1.92	1.29 (NS)	0.195
4.	Loans in emergency	1.58	1.8.	2.08*	0.037
<b>IV</b>	<b>PHYSICAL CAPITAL</b>				
1.	Affordable transport	3.88	3.67	2.34*	0.018
2.	Type of house	3.3	3.52	2.71**	0.006
3.	Source of energy	2.72	2.97	5.25**	0.000001
4.	Drinking water facility	2.40	2.47	1.082 (NS)	0.279
5.	Household material possession	10.02	11.37	7.17**	0.007
6.	Livestock possession	6.2	6.50	3.16**	0.001
<b>V</b>	<b>NATURAL CAPITAL</b>				
1.	Natural assets utilization	4.85	4.52	2.19*	0.027
2.	Type of soil	2.36	2.36	0 (NS)	1
3.	Soil depth	2.05	2.05	0 (NS)	1

\*\* - Significant at 1% level

\* - Significant at 5% level

NS – Non significant

From the table it could be determined that the computed **Z (two tailed)** is greater than critical value thus revealing significant difference in human, social, financial, physical, natural capital of before and after organic cultivation. Also, Probability (**P Value**) with the sample is highly significant ( $P < 0.05$ ) in all the five capitals of livelihood changes and hence null hypothesis can be disproved. Thus, we draw the conclusion that there is a significant

difference between changes in livelihood of organic farmers before and after adoption of organic cultivation practices.

As the changes in livelihood of organic farmers were studied in five capitals, for each capital set of related questions were incorporated into it and carried out for analysis for each sub question. According to the result, it can be concluded for human capital that under the changes in mass media exposure, leadership quality and labour availability of all the questions have revealed that significant difference at 1% level of significance of changes in before and after cultivation of organic crops except medical treatment availability and addictive health behaviour with no changes in their livelihood.

In the group of social capital, relationship status with others and concern towards the weaker section the each sub questions were raised to the organic farmers and recorded then taken into analysis. The relationship status with others have showed that 1% level of significance for both before and after practising organic cultivation and concern towards the weaker section have no significance differences.

In the category of changes financial capital, the question asked to the organic farmers related to debts, savings, access to bank per year, loans in emergency. From that, debts and access to bank per year resulted there is no significant livelihood changes in before and after organic cultivation. They have changes in savings and loans in emergency at 1% and 5% level of significance.

Considering the changes in physical capital, asked sub questions such as affordable transport, type of house, source of energy, household material possession and livestock possession have recorded livelihood changes difference in significant at 1% level of before and after organic cultivation.

Finally, in the group of natural capital, it is found that natural assets utilization such as common land, pond, Pasture, fruits, and timbers has significant difference at 5% level. Type of soil and soil depth has no significant change in their livelihood of before and after organic cultivation.

The result of this study can be clearly presumed that livelihood changes of organic farmers involved in before and after adoption of organic cultivation had actually played a significant role in organic farmers.

**Table 2. Distribution of organic farmers according to their livelihood changes**

(n=140)

S. No.	Category	Number	Percentage
1.	Low	7	5.00
2.	Medium	130	92.85
3.	High	3	2.14
	<b>Total</b>	<b>140</b>	<b>100</b>

(Figures in the parentheses denotes the per cent to total)

From the table 2, it can be represented that the majority (92.85%) of the organic farmers were having medium level of livelihood changes followed by low (5.00%) and (2.14%) in the high level categories. Therefore the result concluded that organic cultivation plays a major role in livelihood changes

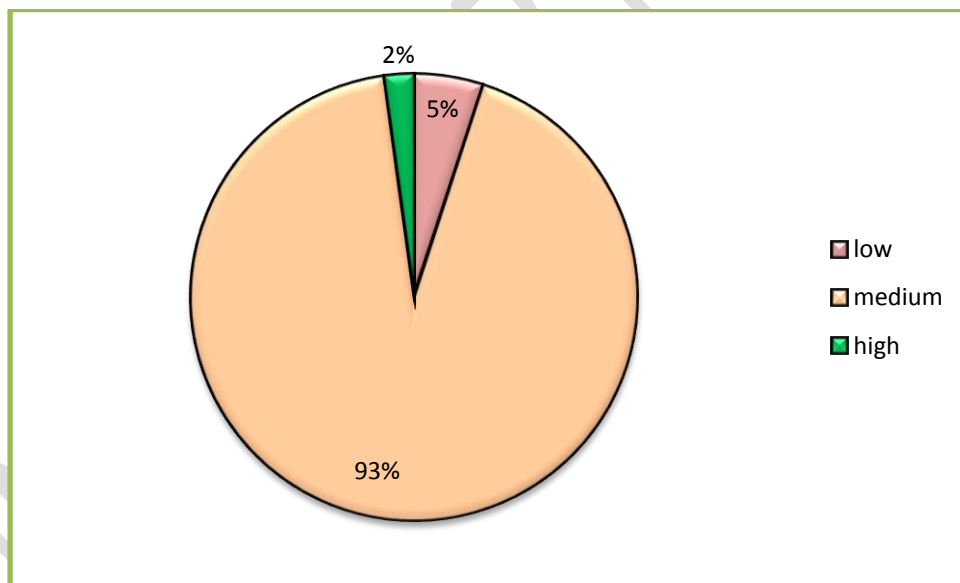


Fig 1. Overall impact of organic farming on the livelihood changes of farmers

#### 4. CONCLUSION

The exploration of the effect of study has shown up significant and outstanding outcome of both before and after organic cultivation of farmers in their livelihood changes. The livelihood had considerable positive changes on the organic farmers. From the study, it helps

to know about the transition of both before and after organic farming. It is essential to remember that the government should efforts to provide a separate marketing channel, organizing training related to organic cultivation, conducting some awareness programme among the people and give some guidelines to control the weeds and the subsidy for organic farmers can also be responsible for the success of changes in their livelihood of before and after organic cultivation.

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