

FARMERS' VIEWS ON TRANSFORMING AGRICULTURAL LAND: A SURVEY-BASED STUDY

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Abstract

Agriculture is one of the oldest and most significant occupations of humankind. The transformation and development of agriculture are multi-dimensional. In recent years, there has been an increase in the proportion of agricultural landscapes being transformed into built-up land. This transformation has led to a loss of biodiversity and degradation of the ecological capacity of the landscape. Physical and socio-economic factors closely control farming activities and cropping patterns. The physical environment plays an essential role in agriculture.

In this study, 80 farmers were interviewed using purposive sampling techniques to analyze the factors responsible for agricultural land transformation and evaluate farmers' perceptions about changing land use decisions among farmers living in Coimbatore. The study aims to provide insights into the factors influencing agricultural land transformation and how farmers perceive these changes. The results of this study could help policymakers develop strategies to mitigate the negative impacts of agricultural land transformation on biodiversity and ecological capacity.

Keywords: agriculture, farmers, land transformation.

INTRODUCTION

The history of agriculture began thousands of years ago. After gathering wild grains beginning at least 105,000 years ago, nascent farmers began to plant them around 11,500 years ago. Pigs, sheep, and cattle were domesticated over 10,000 years ago. Plants were independently cultivated in at least 11 regions of the world. By 6000 BCE, most of the farm animals we are familiar with today had been domesticated. By 5000 BCE, agriculture was practised in every major continent except Australia. Agriculture has often been conceptualized narrowly in terms of specific combinations of activities and organisms—wet-rice production in Asia, wheat farming in Europe, and cattle ranching in the Americas. The development of agriculture about 12,000 years ago changed the way humans lived.¹

Farming in India dates back to the Indus Valley Civilization around 6000 BCE. The Indus Valley Civilization was an agricultural civilization that relied on the Indus River for irrigation. The Harappan people were skilled farmers and grew wheat, barley, peas, and cotton. They also domesticated cattle, sheep, goats, and pigs. Agriculture has been an integral part of Indian culture since ancient times. The Vedas mention agriculture as one of the main occupations of the people. The Mauryan Empire (321-185 BCE) was known for its agricultural reforms and irrigation systems.

India is a country with a population of about 1.3 billion people. Approximately 68% of India's population lives in rural areas where agriculture is the primary occupation. Indian agriculture is characterized by small farm holdings, with an average farm size of only 1.57 hectares. Nearly 93% of farmers have land holdings smaller than 4 hectares and cultivate almost 55% of the arable land. Agriculture is one of the oldest and most significant occupations of humankind. The development of agriculture is essential for the economy of any country because it is a primary sector of the economy that

¹ Agriculture & Agricultural Technology Portal | Britannica. <https://www.britannica.com/browse/Agriculture>

provides the vital ingredients for the existence of humankind. In India, agriculture is a significant source of the economy, contributing more than one-third of the national income and providing direct employment to about 70% of the total population in rural areas.²

The rapid rural land transformation has significantly impacted the people residing in the study area. Earlier, the livelihood of the residents was based on agricultural and dairy activities. With time, land use patterns changed, and economic activities also changed. The study has examined several reasons behind the transformation of agricultural land, and it was found that in recent times, the proportion of agricultural land transformation is more, and the number of people involved in agricultural activities is considerably reduced.

Changes in agricultural land use are often driven by economic incentives of farmers in addition to motivations for ensuring their survival. Empirical evidence also confirms that agricultural land use change can increase household incomes, for example, due to the intensification of swidden areas. Thus, the study attempted to identify the reasons for agricultural land transformation among Coimbatore farmers.

Hence, it is essential to note that rural land transformation can bring about positive changes in economic development and better living standards. However, it can also adversely impact residents and land. Therefore, it is essential to balance development and conservation efforts to ensure that future generations can access fertile agricultural land for sustenance.³

Agricultural transformation and its development are multi-dimensional. It includes a variety of aspects such as agricultural land utilization, cropping intensity, crop productivity, crop concentration, crop diversification, crop combination, commercialization of agriculture, nature of pastoral relationships, and maintenance of ecological balance. Agriculture is essential in the economic development of less developed countries like India. Agricultural development is an integral part of overall economic development. In India, agriculture is the primary source of national income and occupation. Agriculture and allied activities have contributed nearly 50% to India's national income. Approximately 68% of the working population is engaged in agriculture and related activities.⁴

As previously mentioned, the Indian economy is primarily based on agriculture and has been socioeconomically much behind many countries of the developed world. The development of agriculture is crucial for the overall economic development of India. The government has implemented various policies and programs to promote agricultural growth and development in the country. These policies aim to increase agricultural productivity, improve rural infrastructure, provide better access to credit and markets for farmers, and promote sustainable farming practices.

The government's efforts have significantly improved agricultural productivity and rural infrastructure. However, there is still a long way to go to achieve sustainable agricultural growth and development in India. The government needs to continue promoting sustainable farming practices and providing better access to credit and markets for farmers. Additionally, there is a need for more investment in research and development to improve crop yields and develop new technologies that can help farmers increase their productivity.

The drivers of agricultural transformation are multi-dimensional, interrelated, and change over time. However, they can be organized into categories to provide a better opportunity for pragmatic diagnostics and decision-making on national priorities. Although rural families often make their living

² Features, problems, and policies of agriculture explained - the niconomics. <https://theniconomics.com/what-are-the-features-problems-and-policies-of-agriculture-explained/>

³ Smith-Bateman Bill Replenishing Open Space Funds Clears Senate - NJ Senate Democrats. <https://www.njsendems.org/smith-bateman-bill-replenishing-open-space-funds-clears-senate/>

⁴ Indian agriculture and food security: problem and prospects Munich Personal RePEc Archive. <https://mpra.ub.uni-muenchen.de/33748/>

from many different types of work, improvements in farming have proved to be the path toward widespread poverty-reducing growth in the rural economy. Successful agricultural transformations have focused on the farming household, providing opportunities for farmers to earn a better income.

In order to achieve successful agricultural transformations, it is essential to focus on the farming household and provide opportunities for farmers to earn a better income. This can be achieved through various means, such as improving access to credit and markets, promoting sustainable agricultural practices, investing in research and development to improve crop yields and developing new technologies that can help farmers increase their productivity.

Urbanization, particularly the migration of people to cities, has increased exceptionally, particularly in developing countries. The urbanization process involves a transformation from traditional rural economies to modern industrial ones, and dynamic absorption of the population in the urban areas is immensely pervasive in India, the second-most populous country in the world after China. Land use for urban development has increased, although it has little impact on total crop production. Modernization and commercialization of agriculture increased the necessity for non-crop goods and services. Urban sprawl, a growing population of educated youth, social assistance policies, and factors such as poverty, unemployment, and frequent natural calamities like droughts and floods have pushed rural people to urban places chasing after copious non-farm occupations to enhance their earnings (Malek et al. 2019).

Changes in agricultural land use are often driven by economic incentives of farmers in addition to motivations for ensuring their survival (Van et al. 2012). Empirical evidence also confirms that agricultural land use change can increase household incomes, for example, due to the intensification of swidden areas. Thus, this study attempted to identify the reasons responsible for agricultural land transformation among Coimbatore farmers.

METHODS AND MATERIALS

The present study adopts a Descriptive Research Design for examining the basic profile of the farmers and the reasons that lead to the transformation of agricultural land. The researcher adopted purposive sampling techniques for the present study. In this study, 80 farmers were selected purposively to opine on the reasons for the transformation of agricultural land in Coimbatore. The study examined basic information on agricultural labourers, landholding and cultivation patterns, and various reasons for land transformation. The study aims to identify the causes responsible for land transformation.

RESULTS AND DISCUSSION

The collected data is coded into values and analyzed by using SPSS Software. The following Table 1 portrays the Socio-Economic profile of the respondents.

Table 1: Socio-Economic Profile of the Respondents

S.No	Variable	No. of Respondents	Percentage (N = 80)
1.	Age		
	Below 30 years	15	18.8
	31 - 40 years	18	22.5
	41 - 50 years	34	42.5
	Above 50 years	13	16.2
2.	Education		
	Illiterate	29	36.2
	No-formal Education	24	30.0
	School level	12	15.0
	College level	11	13.8
	Professional Degree	4	5.0

4.	Marital Status		
	Married	56	70.0
	Unmarried	24	30.0

Table 1 explains the personal profile of the respondents. It was understood that 42.5 per cent of the farmers are between 41-50 years of age, 36.2 per cent are illiterates, and the majority, 70 per cent of the respondents, are married.

Table 2: Major Reasons for Land Transformation

S.No	Significant Reasons for Land Transformation	Levels of Measurement					
		Low		Moderate		High	
		N	%	N	%	N	%
1	Fertility Decline	35	44	25	31	20	25
2	The decline in the quantity of water	11	14	42	53	27	34
3	Vegetation loss	21	26	55	69	4	5
4	River bank Erosion	9	11	43	54	28	35
5	Poor soil and crop management	24	30	39	49	7	9
6	Urbanization	9	11	55	69	16	20
7	Industrial activities and mining (Windmill)	20	25	47	59	13	16
8	Deforestation	22	28	39	49	19	24

Table 2 explains the levels of measurement on the significant reasons for Land Transformation opined by the respondents under eight divisions. The levels are measured with low, moderate and high levels of coping. Among the different reasons for Land Transformation, 44 per cent of the respondents opined that they have a low level of fertile decline. In contrast, all the other dimensions report that most of the respondents have a moderate level of reasons for Land Transformation for Decline in the quantity of water (53%), Vegetation loss (69%), River bank erosion (54%), Poor soil and crop management (49%), Urbanization (69%), Industrial activities and mining (Windmill) (59%) and Deforestation (49%). The value of fertile agricultural land is far less than the land developed for commercial activities. Residents of the area tend to transform land use from agricultural to non-agricultural due to this huge difference in land value. The land used for farming will yield less income to the owner than the land on which commercial shops are constructed. The process of selling their land to developers and property dealers started with the marginal land owners who were under constant pressure to sustain their land holdings but could not compete with the farmers having more extensive land holdings. The farmers with significant land holdings are the last to transform their land from agricultural to non-agricultural land use.

CONCLUSION

The rapid rural land transformation has significantly impacted the people residing in the study area. Earlier, the livelihood of the residents was based on agricultural and dairy activities. With time, land use patterns changed, and economic activities also changed. The study has examined several reasons behind the transformation of agricultural land, and it was found that in recent times, the proportion of agricultural land transformation is more, and the number of people involved in agricultural activities has been considerably reduced.

The transformation of rural land from agricultural to non-agricultural has been viewed on one side as the development process bringing better living standards, better employment opportunities, and increased sources of income. Still, at the same time, several forms of adverse impacts have manifested

among the residents and land. The large areas of fertile agricultural land were lost to this transformation which needs due attention for maintaining proper agricultural activities to avoid food scarcity.

In conclusion, it is essential to note that rural land transformation can bring about positive economic development and better living standards, it can also adversely impact residents and land. Therefore, it is important to balance development and conservation efforts to ensure that future generations can access fertile agricultural land for sustenance.

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