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## **Agricultural Mobility of Tribes: A Village- Level study in Kerala**

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### **Abstract**

*This paper epitomizes the dynamics in agrarian livelihood of a tribal community. The study probes the transformation taking place over the period with a focus on their agricultural patterns. Outcome of the inquiry reveals that a shift in the pattern and practices of cultivation enforced by the outside elements as a direct outcome of the injection of money economy has not fulfilled the targeted benefits in their life. It has disrupted not only their resource base but their livelihood fabric also. The additional risk of irreversible climate changes further erodes the livelihood trajectory of this resource oriented group. If not checked timely, the situation will result in further downward mobility in agricultural as well as livelihood.*

**Keywords:** mobility, livelihood, climate change, resource base

### **Introduction**

Agriculture, still serves as the principal activity of rural people in Kerala even-though there is a sharp decline in the relative contribution to GDP. According to the recent data, GDP share of agriculture and allied activities stands only at 10.12% in 2015-16(Economic Review, 2018). Rain-fed farming as well as prevalence of age old agricultural practices offering less room for adoption of modern technological innovations reduces the productivity and yield from agriculture. Since the late 1970s agricultural sector of Kerala has been witnessing a marked shift from subsistent food crop cultivation to market oriented cash crop cultivation practices. As a result of this, a sharp reduction has occurred in the area under cultivation and output of food crops. Wetland crops like paddy and vegetables have replaced with tree crops like coconut, rubber etc. Another visible change is the substitution of seasonal food crops like tapioca, pulses, tubers etc. with perennial cash crops like rubber, pepper, cardamom, coffee, banana etc. (Mahesh, 2002) All these practices have paved way for the 'commercialization of agriculture' in the state.

With this transition, the subsistent pattern of cultivation has slowly withered away. It has become an activity demanding profitability and reasonable returns. This rearranged the composition of workforce engaging in this by enhancing the mobility of this sector. The change is not homogeneous across the dependant people. Tribes, one of the most vulnerable groups in the social stratum faces an adverse effect because of the decline in this sector as they depend significantly on agriculture for making a living. According to the 2011 census the relative share

of tribal population in Kerala is 1.6% of total population (Census, 2011). The census reports that there are 35 tribal communities in Kerala where Wayanad district has the largest number of tribal population(37.89%) followed by Idukki (14%) and Palakkad (10.89%).

Since tribes are generally residing either within or near the forests, their livelihood is mainly shaped by the collection of forest products and cultivation in their land. In olden days they followed shifting cultivation which marked shifting of the cultivation sites at regular intervals. Now this practice has stopped because of the change in social circumstances as well as in institutional factors. Hence now they settle in specifically allotted areas and practice settled cultivation. Over the period, several fresh developments entered into their agrarian system causing a rapid transformation both in their agrarian economy and in the broad livelihood trajectory. Integration with outside world and demonstration effect has changed their traditional subsistent pattern of cultivation.

Resource base of a community depicts the profile, access and ownership pattern of the fundamental resources which shape the livelihood rubric. For tribes, the resource base is mainly built upon their agricultural land and forest canopy where they habituate. As a community having limited holding of asset profile the availability and dynamics in it very much affects their livelihood strategies. The shrinkage in the resource base either quantitatively or qualitatively deprives them of their livelihood path owing to their limited access to assets and actors (Bebbington, 99). Their low socio economic status restricts them from acquiring the alternative.

Livelihood of the community was mainly shaped by subsistent agrarian practices and collection of forest commodities. Their needs were limited and most of them were met by the forests – food, herbs etc. This ‘low level subsistent economy’ was first disturbed by the entry of migrant communities into their habitat (Mohandas 91; Anita 96; Velluva 2000). Ownership claims over land came to the forefront at this juncture. Free movement and cultivation in forest land has reached its ‘saturation point’. Cultivation was restricted to limited areas via institutional mechanism through policy regulations (Suresh 08; School of social sciences 03).

### **Literature Review**

Manikandan (2017) evaluated how the non tribal intervention in farming and livelihood activities has withered away the agricultural base of tribal communities. The research

highlighted that provision of non cultivable dry lands and desertification of the area resulting from non sustainable land use patterns of the encroachers erodes the sustainability of agriculture.

Alex (2016) evaluates the livelihood opportunities of tribes in Attappady. The results indicate that with improvement in education and access to new employment opportunities, the younger generation has started to move away from the traditional livelihood. This has resulted not only in livelihood mobility but in structural changes of agricultural activities.

Jose & Padmanabhan (2015) assessed the factors contributing to agricultural land use change in Kerala. According to them different patterns of agriculture and transition to non agricultural land use increase the non-sustainability of farming. By pointing out the ecological and economic vulnerability associated with such changes the researchers recommend interdisciplinary methods to reverse the process and protect farm sustainability.

Jalaja & Kala (2015) measured the agricultural needs and sources of information along with the information seeking behavior of tribal farmers in Attappady. The study highlights the downward mobility occurring in agriculture sector because of land encroachment and land loss to non tribes. The resultant crisis makes them to shift away from agriculture. Still they require information on seed and insecticide. But institutions fail to provide them with the same fuelling miseries.

Suma (2014) evaluates the nature of land holding and agricultural practices of Kurichia community in Kerala. Their ethnic joint management system of land and farms has ensured in defending fragmentation of farmlands and fall in productivity. Rather it ensures viable practices and food security. Hence the researcher recommends co-management of land for reducing the vulnerability associated with agricultural practices.

### **Research Problem**

Several studies report the changes occurring in farming practices of tribes. These changes may be stimulated either by pull factors or push factors. The overall sustainability of such practices and its dynamics will have an impact on ecology, economy and social dimensions. Even if there exists a common binding thread, the pace and intensity of this dynamics differs significantly across various tribal groups and areas. This demands local specific micro level studies for understanding grass root changes and mobility. Hence the present study tries to find out the

drivers of agriculture mobility and its potential changes in the economy and surrounding ecosystem.

## **Objectives**

The objective of the study is to identify the factors contributing to mobility in agriculture sector by evaluating the cropping pattern and structural composition of agricultural crops. The effects of such mobility will also be assessed.

## **Study area**

The present study was carried among the *mannan* community in Idukki district, Kerala. Adimali panchayath, one of the major settlements of this community was selected to conduct in depth field analysis. The panchayath homes not only tribes but migrants from low land areas also. These groups exist together and agriculture is their major livelihood activity. Here tribal communities are mainly living in the fringe areas of forests and therefore the level of interaction with the outsiders is comparatively strong. Compared to other tribal groups, *mannans* exhibit less aversion in interaction with outsiders. This is one of the major reasons for the imitation of cultivation practices of the non tribes.

## **Materials and Methods**

The study uses data from 120 households from different settlements in Adimali village by employing multistage random sampling and using interview schedules and participatory rural appraisal methods. In addition to this, discussions were conducted with activists and government officials to get more composite information on the peculiarities of farming practices and land use changes.

## **Results and Discussion**

### ***Cropping Pattern***

Cropping pattern is the composition of crops cultivated by the community. The mobility in cropping pattern was evaluated by comparing the cropping pattern with that of the previous times. The crops of the present time include the dominance of cash crops like pepper, cardamom, banana, coffee, tapioca etc. All the sample households undertake pepper as their principal crop. The emergence of this trend has evolved by the last twenty five years. Ranking of crops on the basis of cultivable area is pepper (1<sup>st</sup>, 93%), coffee (2<sup>nd</sup>, 80%), cardamom (3<sup>rd</sup>, 72%), banana (4<sup>th</sup>, 62%), tapioca (5<sup>th</sup>, 45%), areccanut (6<sup>th</sup>, 39%), paddy (7<sup>th</sup>, 22%), raggi (8<sup>th</sup>, 15%). Earlier

the area was dominated by food crops like paddy, raggy, arrowroot etc. which demand increased labour hours. But the present results indicate the sharp fall in the relative share of these crops in their cultivation portfolio.

The movement to cash crops was propelled mainly by three reasons. One is the popularization of market economy as an outcome of the interaction with non tribes. Increased economic viability and labour advantage has attracted them for such a choice in their cropping decisions. Secondly, tribal agriculture is characterized by family labour. When education opportunities were limited, the younger generation was actively involved in subsistent farming. But now, education facilities are progressing and youngsters are not available for farming. The final factor is the climate change and resultant fall in water level and droughts. Paddy is a highly water consuming crop and less resistant to climate variations. Forest degradation and the climatic hazards in connection with that slowly led to the disappearance of paddy fields.

The interaction with outsiders also brought out changes in their food pattern resulting in the low demand for subsistent food crops like raggi and arrowroot. Prior to the entry of outsiders, they treated farming as a means to satisfy their subsistent food requirements. They knew only the use value; exchange value was completely unaware to them. After realizing this possibility they started to grow crops for exchange. Even if the use value is high, the low exchange value associated with these crops resulted in less market friendliness. Lack of adequate exchange value compelled them to replace it with more market friendly crops. This is a clear evidence of the influence of markets in decision making.

### ***Composition of land use***

Land use represents how land is used for various activities. It provides the structural composition of land used for different farm and non-farm activities. This was measured by compiling information on share of farm land, non cultivable land, waste land, land for non agriculture activities etc. It has been found that the proportion of non cultivable land as well as waste land is increasing over the years. 69% of the respondents have reported the presence of these types of lands under their holding. Another factor of concern is the increase in the share of such lands over the periods. None of the respondents have reported the reconversion of such lands into cultivable areas over the past years. Loss of fertility and moisture of soil along with inadequate irrigation facilities compel to leave lands as abandoned areas.

Another peculiar feature is the absence of land use for non agricultural purposes. Lack of diversification in economic activities is the key reason for such a situation. With increased share of 'abandoned areas', the agricultural output is slowly coming down leading to the shrinkage of resource base of the community. Even though limited institutional efforts has made in reviving the fertility of land through facilitating irrigation facilities and offering subsidies for fertilizers it brought out little improvement in overall land use. People used to implement these supports in the existing cultivable lands only owing to the heavy costs associated with the land reconversion process.

### ***Income and Livelihood Options***

Income and livelihood options of the community indicate a hefty lineage to agriculture and other allied activities. Educational backwardness and limited access to urban centers make to stick on them in primary sector itself. Besides farming, their prime activity is casual labour in farming and off farming avenues. The fall in agriculture income compel them to work as labourers in nearby cardamom plantations. The composition of activity status indicate that 76% of the respondents find farming as their primary activity followed by casual farm labour(10%), off farming casual labour (8%), national rural employment guarantee scheme (6%). Principal activity is assessed as that activity which provide majority of income and labour days to an individual. This inference clearly demonstrates the absence of livelihood diversification of the community. One of the risks is that the fall in farm income increases their maladies in the absence of viable alternatives. This is the major reason for their low livelihood trajectory.

Casual farm labour includes both plantation and farm lands. Only male members of the family choose option. It can be viewed as distress migration. This activity is co-ordinated by external agents and they find jobs in distant plantations and large farms. Most of these jobs are seasonal in nature. The labour force is absorbed either in planting or in harvesting seasons. Cardamom plantations, coffee plantations, pepper farms, ginger farms, rubber plantations etc. are the major labour absorbing arenas. Off farm practices involve semi skilled and unskilled labour in local urban centers. Both male and female members engage in this activity. Those having very limited landholding mainly practice this as a livelihood option.

National rural employment guarantee programme (NREGP) acts as a relatively new employment option. It not only offers employment generation but promotes agriculture in another way. Using

this option, group farming activities are carried out in a limited manner. Tapioca and vegetables are cultivated in this method in several settlements.

### **Ecosystem Changes**

Farming is heavily dependent on climate conditions. A change in climate will affect the nature and output of agriculture practices. The village has witnessed significant climate variations over the decades. The level of environmental changes, effect on farm activities etc. are compiled to evaluate the influence on agriculture. The depletion of the surrounding forests- both qualitatively and quantitatively- results in climate variations with far reaching outcome. 91% of the respondents have reported the prevalence of adverse climate changes in the area represented by frequently occurring droughts, heat-waves, and fall in rain as well as water level. It has been further reported that 87% of the respondents are confronted with low farm income as a result of this.

One of the most adverse components of climate variations is fall in shade which is highly essential for the proper growth and productivity of cardamom. The ongoing increase in temperature and fall in the number of big trees have reduced the area under cultivation of cardamom. The droughts also curtail the productivity of pepper. Since these cash crops are highly market oriented and serve as the principal source of income of the community, the output fluctuations severely affect the activity status and agricultural security of tribes.

These phenomena adversely affect their income and livelihood options. As the resource base of the community is not satisfactory, they are forced to surrender their only assets – land and agriculture- as collateral security at times of contingency. Even though they possess land and cultivate, they do not enjoy title deeds. So they can-not claim legal ownership over the land. This excludes them from formal financial networking for want of money at times of financial needs. Formal financial institutions often treat them as ‘untouchables’ and the ‘horizontal integration’ (establishment of inter-linkages with superior or powerful institutions) via these channels is almost unattainable. Hence income insecurity ends them up in the hands of money- lenders.

### **Conclusion**

Tribes receive little institutional assistance either as credit or as agricultural inputs. Earlier when they had adopted subsistent farming, it was not an issue. But now, commercial cash crop cultivation demands persistent care and sufficient inputs. Now the cost of cultivation has increased for want of fertilizers and transportation. It necessitates monetary investment. Failure

in institutional mechanism to offer enough support compel them to bow before money lenders. Sometimes this is linked to sale of products to them at prefixed rates. If yield is not sufficient to match the credit the 'debt chain' extends to the next season also. Another prevalent mechanism is to exchange the ownership of their land and just cultivate in it as tenants. Ultimately it leads to little surplus and deprivation of land itself. This '*financial feudalism*' or '*monetary landlordism*' is one of the burning livelihood insecurities confronted by the community. The ecological vulnerabilities in the form of low rainfall, drought, soil erosion, crop failure and fall in price etc. may make situation worse. Low level of profile and access retards them from adopting adaptive strategies (long run escape route). External elements like market fluctuations in prices may intensify the maladies. Fewer options for agricultural diversification and lack of adequate institutional assistance enforce them to remain in 'vicious circle of debt' by restricting the mobility.

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