

The Effects of Climate Change Migration on Socio - Economic - Livelihoods -A Case Study of Kolli Hills, Namakkal District of Tamilnadu

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Abstract—Globally, rising sea temperatures, flooding, and shifting weather patterns are all signs of climate change's growing effects. Recently, there has been a lot of apprehension about climate change. The tribal people's way of life, economy, and survival have all been impacted by it. According to Article 342 of the Indian Constitution, there are roughly 700 different tribes in India. Tribal people made up 8.6% of India's population, according to the census of 2021. Climate change is a result of the massive emissions of greenhouse gases and the reduction in forest cover. Global warming is brought on by the over emission of greenhouse gases, which raises the earth's surface temperature. The tribal people have experienced discomfort, an increase in their cost of living, a threat to their ability to survive, a loss in agricultural productivity, an increase in crop disease occurrence, livestock, human stress, and conflict over resource distribution. The current condition of climate change is thought to have been caused by humans. In recent years, the Kolli Hills have also shown signs of climate change. The tribal people rely primarily on the environment and crops supported by rain. Due to climatic condition the tribal people are difficult to lead their life. Hence most of the families are migrated to near places. Through this study, an attempt would be made to evaluate how climate change affects tribal economies and livelihoods, including native techniques used by the tribes to deal with the negative effects of the changing climate.

Index Terms—Climatic changes, discomfort of Livi hood.

I. INTRODUCTION

Climate change has emerged as one of the most pressing global challenges of the 21st century, affecting ecosystems, economies, and human settlements across the world. One of the lesser-discussed impacts of climate change is the forced

migration of communities whose traditional livelihoods and socio-economic structures are disrupted by environmental changes. The Kolli Hills in Namakkal District of Tamil Nadu, part of the Eastern Ghats, tribal communities such as the Malayali Gounders, in these hills, tribal and smallholder farmers depend largely on millet cultivation, forest produce, and traditional agricultural practices, often on small and fragmented land holdings. their livelihood depends on agriculture, horticulture, and forest-based activities. However, over the past few decades, significant changes in climatic conditions including erratic rainfall patterns, declining soil fertility, reduced crop yields, and increased frequency of droughts. These environmental changes have severely affected traditional farming practices; this led to increased economic insecurity hence people are migrated particularly among the youth and working-age population. As a result, the purpose of this study is to ascertain how climate change has affected the way of life of tribal people and to explore the multifaceted impacts of climate change-induced migration on the socio-economic livelihoods of communities in Kolli Hills.

II. REVIEW OF LITERATURE

Duru et al.(2022) in their study entitled “The effects of climate change on the livelihood of rural women: a case study of Ilorin South, Nigeria”, have stated that the objective of the study was to identify the livelihood of rural women in Ilorin South, to assess the rural women’s understanding of climate change; to determine the impacts climate change on their livelihood pattern; to identify other challenges rural women of Ilorin South face while trying to earn a

living and to examine how rural women of Ilorin South manage the impacts climate change on their livelihood. The study concluded that climate change is already affecting the livelihood of rural women. However, a collective effort is required to implement the proactive measures required to improve rural women's resilience to the impact of climate change on their livelihood.

Balaji (2021) in his study entitled "A study of sustainable livelihood practices of tribal communities in Ranipet has indicated that his objective of the study was to find about the sustainable livelihood practices of tribal communities in Ranipet, Tamilnadu. The purpose of the study was to identify the vulnerabilities faced by the tribal communities in Ranipet district. The study was also to know the day to day life activities of tribal communities. Their research was to know the problems faced by the tribal communities (Irular) in Ranipet.

Kaushal Kumar Sharma (2021) in his study entitled "Livelihood Options and

Livelihood Security among Tribal in South Western Plateau and Highland Region in West Bengal" has expressed that the main objective of the study was to investigate the available livelihood options among the tribal households and to measure the status of livelihood security among tribal households. The study was carried out along the south western plateau and highland region in West Bengal. Secondary data and the primary data have been used. Purposive stratified random sampling technique was used to collect the primary data. The study concluded that landless and marginal people between the age group of 30 and 45 years migrated to places like Burdwan, Hooghly and Purba Medinipur. The migration usually take place during the monsoonal season and rabi crop season. The main reason for seasonal migration is inadequate irrigation facility, lack of fertile land, degradation of forest, erratic rainfall and soil degradation. Livelihood capital distribution within the study region itself indicates inequality. Such inequality plays a major role in labour migration, financial exclusion and social exclusion, and ultimately strives to livelihood insecurity.

Mrinalini Sasanka, (2020) in her study entitled "A Study on enhancing Livelihoods of Tribal's in India through sustainable development strategies" the author has explained that Resources are the shared wealth of a nation such as origin of supply, support and

principally on that can be readily haggard upon for further use. Forests are the divine bliss and gift of nature and so many livelihoods depends upon these forests for their living. These resources are needed for economic development and also for the sustainable growth of the tribal's especially for their livelihood. Tribal and rural people are dependent on forest resources for their livelihoods. It is important to enhance approaches that demonstrate valuable linkages between sustainable livelihoods and conservation management by local tribal and pastoral people. Conservation can only be successful in the long-term if strategies are based on, and compatible with, peoples' current ways of living, their social, political and cultural environment and ability to adapt. Preservation should aspire to deliver positive benefits for those people who are dependent on environmental goods and services, and who stand the costs of conservation, environmental degradation and extreme events. This paper tries to explore the complex processes related to rural struggle for survival and improvement. The understanding of giving support for the strengthening of rural livelihoods and natural resources, governance has to develop cooperation and then can be designed to promote sustainable production and socio-cultural systems.

Marcus Barla (2016) in his study entitled "Impacts on climate change on tribal economy: A study of Jharkhand state of India" has specified that the objective of the study was to find out the causes of changes in climatic condition; to assess its negative effects on the tribal economy and livelihood; to evaluate the existing coping mechanism and practices adopted by them and to recommend policy to set action plans for the adoption by tribals of Jharkhand for their sustainable development. The study concluded that climate change has become a major issue of concern during recent years. It has affected the life, livelihood and economy of the tribal people and threatened their survival. In recent years the evidence of climate change is visible in Jharkhand State.

III. OBJECTIVE OF THE STUDY

- To understand how climate changes were affected farming.
- To find out the reason for migration.

- To assess the socio-economic impacts of migration on the livelihoods.

Research questions

- Are the aware of climate change in their livelihood?
- What are the economic and social changes in the life of tribal people due to climate change?

IV. METHODOLOGY

The validity of any research depends upon accurate and adequate data. Hence due care will be taken to collect the required data for the study.

Sampling Design

The present study includes collection of both primary as well as secondary data. For collecting primary data, field survey technique will be undertaken as per the

requirement in the study area. The first-hand information will be collected from 50 respondents residing in Kolli hills, Namakkal District of Tamil Nadu. The convenient sampling technique will be adopted. The study area covers Semmedu, Gangaikondan, Kalapatti, Thammampatti and Karisal of five villages, and ten respondents from each villages were selected for collecting the data. Hence the total sample frame will be fixed by 50 and secondary data will be collected from various journals, magazines, agricultural department and Namakkal Collectorate.

Frame work of analysis

For the purpose of analysis, master table will be prepared with the information collected through interview schedule. The collected data will be presented in the simple table and these tables will be systematically analysed with the help of simple percentage, Chi-square were analysed.

Table No 1 Personal Profile

Factors	No.of respondents	percentage
Age group		
20-30	16	32
30-40	18	36
40-50	05	10
50-60	07	14
60 and above	04	08
Gender		
Male	32	64
female	18	36
Educational qualification		
No schooling	17	34
Primary	18	36
Secondary	09	18
Higher Secondary	04	08
College	02	04
Occupation		
Farmer	11	22
Daily wage labour	17	34
Livestock rearing	22	44
Land ownership		
No land	39	78
< 1 acre	07	14
1-2 acres	03	06
> 2 acres	01	02
Annual income before migrates		

Below Rs.100000	45	90
100000-200000	04	8
200000-300000	01	2
Annual income after migrates		
Below Rs.100000	18	36
100000-200000	26	52
200000-300000	06	12

Source; primary data

36 percent of the respondents comes under 30-40 age group,64 percent of the respondents were male,36 percent of the respondents completed their education at primary level,44 percent of the respondent’s occupational level are livestock rearing,78 percent of

the respondents were landless, before migrate 90 percent of the respondents earned annual income below Rs. 100000 after migration, 52 percent of the respondents earned annual income between Rs.100000-200000.

Table No 2 Awareness on climate changes

Noticed changes in climate	No. of respondents	percentage
Decrease in rainfall	14	28
Increase in temperature	13	26
Longer dry periods	05	10
Delayed monsoon	06	12
Increase in pests or plant diseases	09	18
Unseasonal rainfall	03	06
Climatic changes affected your farming/livelihood		
Crop failure	17	34
Less income from agriculture	12	24
Forced to find other work	13	26
Migration	08	16

Sources; Primary source

28 percent of the respondents observed that decrease in rainfall due to change in climatic conditions and 34 percent of the respondents reported that crop failure was the affected factors due to climatic changes

Table No.3 Reason for migration

Main reasons for migration	No. of respondents	percentage
Low income from farming	09	18
Crop failure due to climate (e.g., drought, poor rainfall)	12	24
Lack of local job opportunities	10	20
Loan burden or debt repayment	06	12
Need for better income	07	14
Need Education or skill development	05	10
Marriage or family reason	01	02
Destination of migration		
Nearby town/city	48	96
Other district in Tamil Nadu	02	04
Other state	00	00

Migration improved access to any of the following		
Education	26	52
Housing	17	24
Mobile/Internet	07	14
Problems faced due to migration		
Poor housing at migration site	11	22
Low or irregular wages	12	24
Unsafe work conditions	09	18
Health issues	05	10
Family separation	06	12
No job security	07	14

Source; Primary data

24 percent of the respondents crop failure is the main reason for migration, 96 percent of the respondents were migrated nearby town, 52 percent of the respondents stated that improve children education and 24 percent of the respondents were faced by low or irregular wages.

Table No.4 Chi-square value of annual income before and after migration

Degrees of Freedom (df)	Critical χ^2 Value	Calculated χ^2 Value	Result	Significance Level
2	5.991	31.30	Reject Null Hypothesis	0.05

The calculated chi-square value is 31.30 was done with 2 degrees of freedom at a 0.05 significance level. The critical value is 5.991, calculated value is greater than the critical value, hence reject the null hypothesis. This means there is a significant relationship between the variables.

V. CONCLUSION

The findings of this study clearly establish that climate change is having a profound and direct impact on agricultural livelihoods in the Kolli Hills region. Show that decrease in rainfall, rising temperatures, delayed monsoons, and increased incidence of pests and plant diseases are directly impacting agricultural productivity. Crop failures are the main reason for migration, The study highlights that most migrants move to nearby towns and cities, rather than distant states, indicating a pattern of short-distance, seasonal or circular migration. While migration has provided improved access to education and also positive impact on annual income.