

## Economic Determinants among Scheduled Tribes in Hill Districts of Manipur

**Solomon Nungchim Moyon**

Associate Professor, Department of Economics,  
United College, Chandel, Manipur (India)  
Email: solomonnungchim2020@gmail.com

### Abstract:

*This cross-sectional, community-based study was carried out over seven months (August 2019 - February 2020) to examine the various income-generating factors among the tribal communities in the Hill Districts of Manipur, a Northeastern state of India. Using multiple regression analysis, the study identified several key determinants of income generation, including educational attainment, road infrastructure, family size, the presence of government-employed family members, agricultural land area, and family structure. The determinants are significant at  $P < 0.01$  and  $P < 0.05$  levels. These findings provide essential baseline information for understanding the economic development patterns within these tribal populations.*

**Keywords:** *tribal income, economic development, educational impact, infrastructure, agricultural economy*

### Introduction:

India faces formidable challenges in its rural sectors, which comprise about 75% of the nation's population. More than 90% of the labour force in these areas is employed in the unorganized sector, lacking social security and other employment benefits typically found in the organized sector (Usha, 2007). The terms "poverty" and "rural sectors" in India often evoke images of tribal and backward communities, where this pervasive poverty profoundly impacts women, who also face social discrimination. Manipur, a north eastern state of India, is no exception to these challenges. India is home to over 705 scheduled tribes, making up 8.6% of the total population according to the 2011 Census. The tribal population in Manipur is particularly notable for its linguistic diversity despite its relatively small size. According to census data, the scheduled tribe population in Manipur increased from 632,000 in 1991 to 741,000 in 2001, and to 902,740 by 2011, while the state's total population rose from 1.837 million to 2.294 million in the same period, reaching 2.722 million by 2011 (DES, Government of Manipur, 2011). The 34 scheduled tribes in Manipur, such as the Aimol, Anal, Angami, and others, primarily reside in the hill districts. Each tribe tends to concentrate in specific districts, such as the Mao in Senapati, the Kabui in Tamenglong, and the Thadou and Kuki in Churachandpur.

The socio-economic development plans in Manipur face considerable uncertainty due to significant demographic and geographic disparities between the valley and hill areas. For instance, the decennial population growth rate in the hill districts increased from 32.38% in 1981-91 to 35.46% in 1991-2001, whereas the valley districts saw a decrease from 27.65% to 19.04% over the same periods. The state's overall growth rate declined from 29.29% to 24.86% in these decades. These disparities underscore the need for tailored development strategies that address the unique challenges faced by the hill and valley populations. Recent studies indicate that the economic and social challenges faced by these communities have

persisted, necessitating more focused and inclusive policy interventions. For example, a 2020 report by the Ministry of Tribal Affairs highlights ongoing issues in education, healthcare, and infrastructure in tribal regions, including Manipur. Furthermore, the impact of COVID-19 has exacerbated existing inequalities, with tribal communities experiencing significant disruptions in livelihoods and access to essential services (Ministry of Tribal Affairs, 2020). Addressing these issues requires a comprehensive understanding of the socio-economic dynamics within these communities and the implementation of development plans that are sensitive to their unique cultural and geographic contexts. This study aims to provide insights into the factors influencing income generation among the scheduled tribes in Manipur's hill districts, contributing to the broader discourse on rural development and poverty alleviation in India.

### Literature Review:

Socio-economically marginalized women encounter numerous obstacles to empowerment. Sen (2001) highlights that these barriers significantly hinder their progress. In a study on Karnataka, Puttaraja and Heggade (2012) emphasized that economic independence and education are crucial for achieving self-reliance among tribal women. These communities, with low educational attainment, primarily generate income from agro-based and household activities such as dairying, fisheries, small animal husbandry, handlooms, handicrafts, social forestry, and sericulture. Dewangan et al. (2011) found that tribes in the Raigarh District of Chhattisgarh could significantly boost their income through sericulture. Despite over sixty years of independence and extensive planning interventions, the situation of Indian tribes remains far from satisfactory. Roy (2012) observed that the socio-economic status of tribes in Jharkhand is characterized more by deprivation than development. High incidences of rape and domestic violence, linked to women's disempowerment, are significant issues contributing to economic poverty. Bulender (2000) noted that poorer women are often victims of abuse due to their dependence on partners for basic needs like food, shelter, and money. Awais et al. (2009) pointed out that tribal women face significant challenges in achieving sustainable livelihoods and decent living standards due to environmental degradation and external interferences. They further noted that without healthy and productive women, tribal societies struggle to maintain productive agriculture, as women play a critical role in this sector.

Recent studies continue to underscore the persistent socio-economic challenges faced by tribal communities, particularly women. For instance, Das et al. (2014) explored the role of microfinance in empowering tribal women in Odisha, finding that access to financial services significantly improved their economic status and decision-making power within households. Similarly, Rao and Suri (2015) highlighted the importance of self-help groups in fostering economic independence among tribal women in Andhra Pradesh. The impact of education on tribal women's empowerment has been further emphasized by recent research. For example, a study by Kabeer and Datta (2019) indicated that educational initiatives targeting tribal girls in Maharashtra led to improved literacy rates and higher aspirations for economic participation. Furthermore, Mishra (2018) found that vocational training programs tailored to tribal women in Jharkhand enhanced their skills and employability, thereby contributing to household income. Environmental challenges also continue to affect tribal livelihoods. A study by Singh and Shah (2017) revealed that deforestation and land degradation in Madhya Pradesh adversely impacted traditional agricultural practices, forcing tribal communities to seek alternative income sources. This environmental strain exacerbates the economic vulnerability of these populations. The COVID-19 pandemic has added another

layer of difficulty for tribal communities. According to a report by the Ministry of Tribal Affairs (2020), the pandemic disrupted access to healthcare, education, and livelihoods for many tribal families. The lockdown measures severely impacted informal sector jobs, which constitute a significant portion of employment for tribal populations, thereby increasing their economic insecurity.

To sum up, the literatures highlight the complex interplay of factors affecting the economic and social status of tribal communities in India. Educational attainment, economic independence, environmental sustainability, and overcoming social discrimination are key to improving the livelihoods of these marginalized groups. Addressing these issues is crucial for the holistic development of tribal societies.

## Objectives

The objectives of this study are to examine and categorize the primary sectors contributing to income generation among the tribal communities in the hill districts of Manipur; investigate the socio-economic factors such as education, family size, and employment status that influence income levels within these communities; evaluate the role of infrastructure, including road connectivity and access to markets, on economic activities and income generation; study the impact of agricultural land ownership and practices on household income; analyze the specific challenges faced by women in achieving economic independence and contributing to household income; assess the effectiveness of existing government policies and interventions aimed at improving the economic status of tribal communities in Manipur; compare the socio-economic conditions and income generation activities among different tribal groups within these districts; investigate the effects of the COVID-19 pandemic on the livelihoods and economic stability of the tribal communities; and, based on the findings, propose actionable policy recommendations to enhance income generation and economic development for the tribal communities in the hill districts of Manipur.

## Materials and Methods:

In this study, a stratified random sampling approach was employed to survey 1079 households across the hill districts of Manipur specifically from three districts say Chandel, Churachandpur and Senapati. Data collection was conducted using a pre-tested and semi-structured schedule over a seven-month period from August 2019 to February 2020. The primary tool for analysis was multiple regression analysis, conducted using SPSS version 19, to identify the key co-variates influencing income generation in the study population. To handle qualitative variables, binary dummy variables (0, 1) were utilized. A cut-off value of 0.4 was set for zero-order correlation to detect and manage multicollinearity issues among the co-variates. The effects of various factors on income levels were interpreted using regression coefficients with their 95% confidence intervals (CI) and P-values from t-tests. Statistical significance was determined at the 5% level ( $P < 0.05$ ), while results with P-values less than 1% ( $P < 0.01$ ) were considered highly significant.

## Variable Specification:

In this analysis, we explore the functional relationship between the per capita income of a family (Y) and several key predictors. These predictors include the area of cultivable land, the number of family members engaged in agriculture and allied activities, the presence

of government-employed family members, road connectivity measured by distance from the nearest town, family type (joint or nuclear), educational status, and female age at marriage. The response variable, average annual income per family in rupees, is termed as the per capita income of a family. We focus on nine predictors assumed to be functionally related to the improvement in per capita income. These predictors encompass various aspects such as land area, family demographics, infrastructure, education, and social class. Additionally, we include female age at marriage as a socio-demographic variable, recognizing its potential influence on societal economic development.

### **Analysis and Results:**

In the multiple regression analysis, the functional relationship between the per capita income of families and nine explanatory variables was explored. To address multicollinearity, a zero-order correlation matrix was utilized, revealing significant impacts of several variables on family income. The regression model yielded an F-value of 28.13 ( $P < 0.01$ ), indicating a substantial explanatory power, with 40% of the variation in per capita income explained by the predictors. Among the variables, six were found to significantly influence per capita income: cultivable land area, number of family members, engagement in agricultural activities, government employment, road connectivity, and family type. Notably, higher education levels and joint family structures positively impacted income, while larger family sizes and greater distance from main markets had negative associations. Further analysis using stepwise regression method identified six significant predictors of family income. These predictors, including educational status, road connectivity, family size, government employment, cultivable land area, and family type, explained 36% of the total variation in per capita income. Notably, higher education levels and government employment positively influenced income, while larger family sizes and greater distance from main markets had adverse effects.

In the final regression model, educational status emerged as the most influential predictor, followed by government employment, cultivable land area, and family type. However, distance from main markets and family size continued to negatively impact income levels. The regression diagnostics confirmed the significance and efficiency of the model, with F-values indicating substantial explanatory power and R<sup>2</sup>-values indicating consistent improvement in explaining per capita income. Overall, the regression models provide valuable insights into the determinants of family income in the studied population, highlighting the importance of education, employment, land ownership, and family structure.

### **Discussion:**

The findings from the multiple regression analysis shed light on the determinants of family income in the studied population. Consistent with previous literature, variables such as cultivable land area, family size, engagement in agricultural activities, government employment, road connectivity, and family type emerged as significant predictors of per capita income. These results corroborate the importance of factors like education, employment, and land ownership in shaping economic outcomes within tribal communities, as highlighted by Sen (2001), Puttaraja and Heggade (2012), and Dewangan et al. (2011). Notably, the positive associations between higher education levels, government employment, and income align with the findings of Das et al. (2014), Rao and Suri (2015), Kabeer and Datta (2019), and Mishra (2018), emphasizing the role of education and employment opportunities in empowering tribal women and enhancing household income. Conversely,

challenges such as larger family sizes and limited road connectivity, as observed in this study, echo concerns raised by Roy (2012), Bulender (2000), Awais et al. (2009), and Singh and Shah (2017), highlighting the multifaceted barriers to economic progress faced by tribal communities.

The impact of the COVID-19 pandemic further exacerbates these challenges, as documented by the Ministry of Tribal Affairs (2020). The disruption in access to healthcare, education, and livelihoods underscores the vulnerability of tribal populations to external shocks, particularly in informal sector employment, as noted by previous authors. Thus, the findings emphasise the intricate interplay of socio-economic factors influencing the well-being of tribal communities in India. Addressing these challenges requires holistic approaches that prioritize educational attainment, economic empowerment, environmental sustainability, and social inclusion. Policy interventions aimed at enhancing access to education, promoting sustainable livelihoods, and strengthening social support systems are imperative for the holistic development of tribal societies, as emphasized by recent studies and the broader literature on tribal empowerment and poverty alleviation.

### Conclusion:

In conclusion, this study sheds light on the determinants of family income within tribal communities, revealing that several socio-economic variables significantly impact per capita income, with about 40% of the variation explained by these factors. Cultivable land area, family size, engagement in agricultural activities, government employment, road connectivity, and family type emerged as significant predictors of income levels. Further analysis using stepwise regression confirmed the importance of educational status, road connectivity, family size, government employment, cultivable land area, and family type. Higher education levels and government employment were positively associated with income, while larger family sizes and greater distance from main markets had adverse effects. These findings underscore the complex interplay of socio-economic factors shaping the economic well-being of tribal communities and highlight the importance of education, employment, land ownership, and family structure. Addressing these challenges requires comprehensive policy interventions prioritizing educational attainment, economic empowerment, environmental sustainability, and social inclusion, aiming to foster holistic development and improve the livelihoods of tribal societies in India.

**Table - 1: Correlation Matrix among the quantitative independent variables**

Variables	Cultivable Land Area	No. of family member	No. of family members engaged in agricultural and allied activities	Educational status	No. of Govt. employed family member	Road connectivity	Female age at marriage
Cultivable Land Area	1.000						
No. of family member	0.108**	1.000					
No. of family members engaged in	0.401**	0.256**	1.000				

agricultural and allied activities							
Educational status	0.169**	0.055	0.035	1.000			
No. of Govt. employed family member	-0.051	0.032	0.012	0.355**	1.000		
Road connectivity	0.145**	-0.058	0.190**	0.020	-0.178**	1.000	
Female age at marriage	0.162**	-0.173**	0.087*	0.193**	0.068	0.224**	1.000

\*\*Correlation is significant at the 0.01 level \*Correlation is significant at the 0.05 level

**Table - 2: Multiple regression coefficients and their test values**

Variables	$\beta$ (95% CI)	t-value
Constant	52360 (35677, 69043)	6.16 (P<0.01)
Area of cultivable/ agricultural land (in hac.)	2933 (1038, 4828)	3.04 (P<0.01)
No. of family member	-5123 (-6654, -3591)	-6.57 (P<0.01)
No. of family members engaged in agricultural and allied activities	-861 (-2292, 571)	-1.18 (P>0.05)
No. of Govt. employed family member	5357 (2929, 7784)	4.33 (P<0.01)
Distance of road connectivity (in km)	-3313 (-4539, -2088)	-5.31 (P<0.01)
Type of family	9019 (913, 17125)	2.19 (P<0.05)
Educational status	7318 (5395, 9241)	7.47 (P<0.01)
Female age at marriage	-199 (-775, 375)	-0.68 (P<0.05)

*Model Diagnostics: F = 28.13 (P<0.01); R<sup>2</sup> = 0.379, Durbin-Watson = 1.89*

**Table - 3: Stepwise regression coefficients and their test values**

Step	Variables	$\beta$ (95%CI)	t-value	Model Diagnostics
1	(Constant)	18184 (14359, 22009)	9.33 (P<0.01)	F=107.84 (P<0.01), R <sup>2</sup> = 0.133
	Educational status	9755 ((7911, 11599)	10.38 (P<0.01)	
2	(Constant)	27982 (23406, 32558)	12.01 (P<0.01)	F=83.18 (P<0.01), R <sup>2</sup> = 0.192
	Educational status	8626 (6817, 10435)	9.36 (P<0.01)	
	Distance of road connectivity (in km)	-4286 (-5466, -3106)	-7.13 (P<0.01)	
3	(Constant)	47296 (39827, 54765)	12.43 (P<0.01)	F=71.86 (P<0.01), R <sup>2</sup> = 0.235
	Educational status	9039 (7273, 10804)	10.05 (P<0.01)	
	Distance of road connectivity (in km)	-3842 (-4999, -2685)	-6.52 (P<0.01)	
	No. of family member	-4014 (-5260, -2768)	-6.32 (P<0.01)	
4	(Constant)	46392 (38994, 53790)	12.31 (P<0.01)	F=59.36 (P<0.01), R <sup>2</sup> = 0.294
	Educational status	7765 (5917, 9614)	8.25 (P<0.01)	
	Distance of road connectivity (in km)	-3456 (-4614, -2297)	-5.85 (P<0.01)	
	No. of family member	-4102 (-5335, -2869)	-6.53 (P<0.01)	
	No. of Govt. employed family member	5067 (2650, 7484)	4.12 (P<0.01)	
5	(Constant)	45662 (38268, 53055)	12.12 (P<0.01)	F=49.07 (P<0.01),
	Educational status	7239 (5350, 9127)	7.52 (P<0.01)	
	Distance of road connectivity (in km)	-3763 (-4943, -2583)	-6.26 (P<0.01)	
	No. of family member	-4218 (-5450, -2986)	-6.72 (P<0.01)	

	No. of Govt. employed family member	5341 (458, 3906)	4.33 (P<0.01)	$R^2 = 0.326$
	Area of cultivable/ agricultural land (in hac.)	2182 (458, 3906)	2.48 (P<0.05)	
6	(Constant)	47804 (40151, 55458)	12.26 (P<0.01)	F=41.79 (P<0.01), $R^2 = 0.358$  Durbin-Watson=1.89
	Educational status	7283 (5399, 9167)	7.58 (P<0.01)	
	Distance of road connectivity (in km)	-3475 (-4683, -2266)	-5.64 (P<0.01)	
	No. of family member	-5061 (-6528, -3593)	-6.76 (P<0.01)	
	No. of Govt. employed family member	5309 (2896, 7722)	4.32 (P<0.01)	
	Area of cultivable/ agricultural land (in hac.)	2424 (689, 4160)	2.74 (P<0.05)	
	Type of family	84089 (398, 16419)	2.06 (P<0.05)	

## References

1. Awais, M., Raza, S. A., & Hussain, M. (2009). Challenges faced by tribal women in achieving sustainable livelihoods: A case study of tribal women in NWFP, Pakistan. *Journal of Agriculture and Social Sciences*, 5(3), 126-130.
2. Bulender, R. W. (2000). Tribal women and domestic violence. *Social Change*, 30(3), 56-70.
3. Das, B., Nayak, A., & Pal, D. (2014). Empowering tribal women through microfinance: A case study of Odisha. *Journal of Rural Development*, 33(4), 455-467.
4. Dewangan, G. C., Shrivastava, S. K., & Verma, K. K. (2011). Enhancing income through sericulture: A case study of Raigarh District, Chhattisgarh. *Asian Journal of Agricultural Sciences*, 3(2), 122-126.
5. Government of Manipur, Department of Economics and Statistics (DES). (2011). *Census of India, 2011: Manipur*.
6. Kabeer, N., & Datta, R. (2019). Educational initiatives and tribal women's empowerment: Evidence from Maharashtra. *Indian Journal of Gender Studies*, 26(1), 48-68.
7. Ministry of Tribal Affairs. (2020). *Annual Report 2019-2020*.
8. Mishra, S. K. (2018). Vocational training programs and tribal women's empowerment: A case study from Jharkhand. *Journal of Vocational Education & Training*, 70(1), 124-138.
9. Puttaraja, H. P., & Heggade, O. D. (2012). Economic independence and education among tribal women: A study in Karnataka. *Journal of Social Work Education*, 23(1), 89-104.
10. Rao, S., & Suri, K. (2015). Self-help groups and economic independence among tribal women: A case study of Andhra Pradesh. *Journal of Community Development*, 46(3), 187-199.

11. Roy, S. (2012). Deprivation or development? Assessing the socio-economic status of tribes in Jharkhand. *Indian Journal of Development Research and Social Action*, 8(2), 25-39.
12. Sen, A. (2001). Empowerment and agency: Breaking the cycle of poverty. *Journal of Development Economics*, 74(1), 189-214.
13. Singh, V., & Shah, M. (2017). Impact of deforestation and land degradation on tribal livelihoods in Madhya Pradesh. *Environmental Management*, 62(3), 441-455.
14. Usha, R. (2007). Challenges faced by the unorganized labor force in rural India. *Indian Journal of Labour Economics*, 50(3), 589-605.