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Impact of Livelihoods on the Level of Poverty Among the Plain Lander Indigenous People in Bangladesh

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Abstract

Saontals are the largest indigenous community in the plain land of Bangladesh; however, they are mostly low living standards till now. To conduct this study, 151 samples collected through simple random sampling and surveyed at three upazilas (e.g., Dhamoirhat, Patnitala, and Sapahar) of Naogaon district. Using the Multidimensional Poverty Index (MPI), the levels of poverty measured in the study areas where vulnerable to poor, poor, and non-poor is 44.37%, 18.54%, and 37.09%, respectively, among them. The logistic regression model suggests that age, household size, dependency on agro-based activities, and sources of water are more likely to increase the probability of being poor. On the other hand, the number of households with educated members and ownership of capital are less likely to increase the probability of being poor. The MPI indicators highlight the deprivation of living standards. The qualitative data states that only enrollment in school is visible; nevertheless, access to required education is unrealistic due to the expensive cost of education. They are facing scarcity of natural resources due to climate change and losing their land rights for the use of muscle power and political violence. Modernization of agriculture is reducing their working days, whereas livelihood diversification is rare among them.

Keywords: *Livelihood, Poverty, Saontals, MPI*
JEL Classification: *132, 138, J15, Q12, O15*

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1. Introduction

Saontals is one of the indigenous groups whose population is 129,049 (7.82%) of total indigenous people in Bangladesh. Most of the Saontal people settle in Rajshahi and Rangpur divisions. Naogaon is one of the largest districts that has 107,292 indigenous people, and Saontal is a major among them (BBS Census 2022).

The Saontals are classified into numerous clans. In accordance with the Saontali language, these clans are called 'Paris'. Mainly, Saontals are classified into 12 clans: Kiscu, Hnasdak or Hnasda, Murmu, Hembrom, Marnadi or Marandi or Mardi, Soren, Tudu, Baskey or Baski, Besra, Pnaoriar or Pauria, Guasoren, and Chnorey (Toru, 2007). There is a restriction on marriage with the same clan. They would believe in animism, which means each soul has spiritual power, but they have mostly converted to Christianity to get charity from Christian missionaries. Very few people believe in animism and practice worship still now.

Saontals are the second largest indigenous group after Chakma in Bangladesh. Generally, they have medium height, a dark complexion, a round-shaped face, high cheekbones, a large mouth, voluptuous lips, and a wide nose (Debnath, 2011). They live in nuclear and joint families under patrilineal society (Chakma, 2002). They are hard workers, and their livelihood depends mainly on agriculture.

Saontals are called the progenitors and upholders of agro-based activities. Most of them do not own land and are poor. They sell their labor to landowners. Both males and females participate as laborers in agriculture. They are used to hard work such as digging soil, carrying loads, hunting, and fishing. They are wage-discriminated and exploited in the workplace. They rear cows, goats, sheep, pigs, hens, ducks, chickens, pigeons, etc. They cultivate crops and vegetables for their consumption. During leisure time, they go hunting, fishing, and searching for food, vegetables, and wood in water bodies and forests. The impact of climate change on their leisure activities.

The Saontals have their own language and culture. The Saontali language is used to communicate with each other among them, but they also use the Bengali language to communicate with others. Saontali language is derived from Austriac, but it has no alphabet. Folk songs of the Saontali language are still there now. They lead a very poor life, but there is peace and patience among them. They share food among them when they face a crisis of food. They help with each other. They eat rice, vegetables, fish, pork, ribs, chicken, beef, and the meat of squirrels and eggs of any livestock. They like to drink pachai that is produced from putrefied rice. Without it, they do not enjoy any social or cultural programs.

They make their house from mud, tin, and bamboo. In front of a muddy house are beautiful drawing designs that easily attract a man. The floor and roof condition of the house is not good. The roof of the house has straw or tin, and the floor is covered in mud. Natural calamities affect their house easily. Repairing the house is a burden every year. House repair costs accelerate the financial crisis intensively. Being Christians, they generally do not attend work on Sunday; they go to pray at church together. The Christian group celebrates Star Sunday with great enthusiasm, and the Animist prefers worship of God Kali (Shamsuddoha& Jahan, 2018).

A livelihood forms the capabilities, assets, and necessary activities for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks, justify its capabilities and assets, and not underestimate the natural resource base (Chambers & Conway, 1992).

Five major components ensure sustainable livelihood: creation of working days at least 200 days of a year (Lipton 1991), poverty reduction, well-being and capital, livelihood adaptation, vulnerability and resilience, and natural resource base sustainability. Resources of livelihood accumulate five capitals: natural capital, human capital, physical capital, economic or financial capital, and social capital.

Poverty is "pronounced deprivation in well-being." The poor are those who do not have enough income or consumption to put them above some adequate minimum threshold (World Bank, 2000). This definition expresses monetary and consumption levels but does not reflect the well-being of individuals. After criticism of this method, the 'Alker and Foster Counting Method' developed. The method uses some indicators to measure poverty level inclusively.

In 2010, the Oxford Poverty and Human Development Initiative (OPHI) and the United Nations Development Programs (UNDP) developed the Multidimensional Poverty Index (MPI), which is used in 100 developing countries. MPI considers three basic pillars: health, education, and standard of living. Health and Education has four indicators, and Standard of living has six indicators. A total of ten indicators are used based on deprivation, whereas 1/3 equal or greater value shows the MPI poor.

2. Objectives

The objectives of this study are:

- to measure the level of poverty by Multidimensional Poverty Index (MPI)

- toidentify the impact of livelihood on MPI
- to provide policy recommendations according to the findings of the research

3. Review of the Literature

3.1 Poverty

Although they make up only 5% of the world's population, they account for 15% of the world's impoverished, and they suffer from poverty, prejudice, and poor nutritional health at considerably higher rates than the general populace in their home countries. These disparities are unacceptable in all human rights frameworks, and the call to alleviate them resonates through all human development programs and the United Nations organizations (Kuhnlein, 2017).
Poverty levels vary amongst the indigenous groups, where the Oraon, Santal, Pahan, and Khasia communities are suffering from more severe forms of poverty than the Hajong, Garo, and Rakhain communities among the plain land ethnic minorities (Barkat et al., 2009a).

The poverty rate of indigenous groups is always seen to be many times higher than the national poverty level. The special ministry works for indigenous people of CHTs, but indigenous people of plain land are mostly deprived. 12 focus group discussions, 12 key informants Information from Hill Tract and plain land was proportionately recorded. possession of land, state policy, nationalism and ethnic conflict, social protection, and health services preferred to mitigate discrimination and deprivation of indigenous people (Chakma &Matrot, 2016).
The multidimensional poverty index indicator varies from country to country. 17 indicators have been considered in this research of indigenous peoples. 240 respondents have been interviewed by structural questions. Years of schooling 83.4%, assets 48.5%, home appliances 41.1%, school enrollment 39.8%, sanitation 36.9%, cooking fuel 1.7%, and nutrition only 0.8% were deprived of this study area. MPI recommends the policy maker to achieve the ultimate goal of poverty reduction (Abdullah et al., 2019).

Bangladeshi 65% of indigenous people live in income poverty; that is the highest rate in Great Britain. The family size of ethnic people becomes large for Bangladeshi, Indian, and Pakistani. The labor force participation of males and females is comparatively high among Bangladeshis. Poverty depends on age structure, family size, family work status, and geographical area. The study is continued based on British Census data (Kenway & Palmer, 2007).
The researcher tried to show the Multidimensional Poverty Index of Indian indigenous people, whereas 15% of respondents are deprived of nutrition, 22% have child morbidity, 20% have not completed six years of schooling, 43% are

not attending school after class six, 40% cook with fuel (wood, dung, charcoal), 50% lack sanitation, 23.5% are not drinking safe water, 8% have no access to electricity, 65% have inadequate house materials, and 60% are assetless among the purposively collected 200 samples. 72% of the sample live in a nuclear family, and 70% of the household is male. To reduce poverty, a targeted poverty reduction plan must be implemented (Lal &Lunavath, 2023).

The Chakma communities are observed as 41.3% poor, 9% severely poor, and 19% unequal among 75 respondents. Sen's poverty line technique has been used to measure poverty level considering cultural standards of community practice. 77.3% of Chacma women were housewives; job opportunities were rare. They are deprived of education and health facilities. The main reason for poverty is identified as job insecurity. There was no difference in family size between indigenous people and the national level. The government should allocate a special budget for minority indigenous people (Mahmud & Islam, 2022).

3.2 Poverty and Livelihood

The impact of homestead farming on the livelihood of indigenous people in Bangladesh has been analyzed in this article. Middle-aged, small family size, and illiterate people were the maximum in this study. Age and education have no impact on the livelihood model, but homestead size and household size had positive and significant. Fruits, vegetables, and livestock husbandry have been assumed for homestead farming. The high price of piglets is declining pig rearing day by day. Access to land is one of the major concerns of indigenous people to secure a livelihood. They earn a significant amount of cash income from selling homestead products at local markets. Homestead farming has played a significant role in ensuring sustainable livelihoods (Mahzabin&Nawata, 2023).

The work tried to draw attention, especially to Saontal agro-based women workers of northern Bangladesh. A purposively selective random sample of 106 has been collected to estimate socio-economic vulnerability. Most of the respondents were young and married. 73.58% of women can only sign, which means they are illiterate. They live in a nuclear family mostly and have 77.35% faith in the Christian religion. Their annual income level was BDT 8000-16000 of 43%, which expresses the struggle of life. Their house was made of soil, bamboo, tin, and shanty. 76.41% were landless; they sold their labor to other land. They rear livestock and depend on them. 42.5% of children were not going to school, and the literacy rate of females was lower than that of males. About 92.5% of Saontals people take inadequate food more than three times. 22.6% get the opportunity to take hobby food in a month. 18.86% use tube wells, 80.20% use deep wells, and 0.94% use wells as a source of water. The government should prefer to manage water crises and sanitation (Haider, 2022).

3.3 Education

Most of the Saontal children grow up with a lower socio-economic background and leave school from grades nine or ten to earn for their family (Patel, 2017). 68% of people were illiterate, and they could not complete their education level due to poor economic conditions (Maharana, 2015).

Saontal families of Rajshahi are dominated, discriminated, and exploited in many ways. Most of them were illiterate; they could not concentrate on education due to extreme poverty. Both males and females had to work in the agro-field. Female workers had to face eve-teasing, sexual harassment, and low payment. Government permission to sell land and political elite is a resistance. The male gets two-thirds of the property of their father, but the female gets one-third. To get facilities, they convert traditional religion to Christianity. The dowry system is not practiced for Saontal. The children face a great problem taking primary education because their mother tongue is not used in our education. The government has to ensure political and legal land rights, basic needs, and social safety (Elahee, 2013).

Indigenous minorities have their own language. Access to primary education through the Bengali language, they generally face a great challenge. To ensure smooth learning, first language-based education is necessary (Rahman, 2010).

3.4 Impacting Factors on Poverty

Sen and Kakwani indexes have been used to measure poverty. Age, gender, education, household size, farm size, land ownership, non-farm activities, credit access, household income, and natural capital have a negative impact on poverty. About 52% of Saontal are absolutely poor in this study. 50% of Santal people are landless; they must go to casual work. 50% are illiterate, and only 6% have higher secondary education. Income inequality in Saontal is lower than that of Bengali people. Investment in education and income-generating activities can reduce poverty (Tithi et al., 2020).

Income from agriculture, labor selling income, land size, and education and schooling is significant for the yearly family income model. Yearly expenditure on food, family size, total land size, and education is significant for the yearly expenditure model. The negative relationship between income and poverty has been shown. Education and health services have been recommended to ensure food security and reduce poverty levels (Ria et al., 2019).
The study ensures that social networks, norms of reciprocity, social trust, and civic participation were associated with poverty. The logistic regression proves

that social trust, social networks, norms of reciprocity, and civic participation are negatively associated with poverty (Islam & Alam, 2018).

80% of women were illiterate; they were interested in agricultural work, but agriculture is seasonal. They are paid an advance payment by the landowner for labor sales, but this payment is less than the regular payment. The rest of the time they must do domestic work or collect firewood from illegally crossing the Indian border. Only one and a half kg of rice is paid by a long day of domestic work. 70% of women have no surrounding land to cultivate vegetables. Rearing livestock is very challenging at home. Political violence is a problem to realize their rights. Government and non-government organizations should come forward to improve the livelihood and food security of indigenous people (Munro et al., 2014).

Entrepreneurship development on household income and expenditure has been identified, whereas the largest number, 360 samples, was collected in a multi-staged sampling technique. Indigenous and non-indigenous samples have been taken proportionately. Propensity score matching model, nearest neighbor matching model, and linear regression model used. Household income, income from crops, income from livestock and poultry, business, labor selling, savings, and enterprise were significant for the income model. Infrastructure development has been recommended to enhance livelihood (Khanum et al., 2018).
A mixed method is used, whereas 120 samples have been collected from two districts. The indigenous people are locally called Chepangs. For qualitative analysis, Focus Group Discussion (FGD) and Key Informant Information (KII) have been done. Average family size is 6.2, 93.3% male head of the household, 63.3% illiterate, 95.8% involved in farming, and 73.3% have a citizenship certificate among the sample size. Administrative and procedural complexity is a challenge for citizenship certificates that deprive them of land and state basic rights. Protection of forests mostly saves the Chepangs community (Luni et al., 2011).

The indigenous people are considered second-class citizens, which leads to a lack of social, political, economic, and identical facilities. Poverty is the basic problem of indigenous people in all countries of the world. 10-15% are categorized as poor or severely poor in accordance with the information of UNDP 2017. The social worker, as an advocate, educator, and facilitator, can bring identity, respect, and protection to the backward people (Suradi et al., 2019).

This research has been conducted in the northern part of Bangladesh, whereas it is mentioned that 20–30% of indigenous people are excluded from society during mutual understanding with each other. People are excluded in the

state, market, and society in terms of family for poverty. Besides, absence of voice, bargaining power, lack of capital, and identity of drug addiction differentiated people from social life. The society determines the class of people in accordance with ownership of assets and income level (Islam & Nath, 2012).

4. Methodology

The simple random sampling method used to choose the upazilas and villages, but the samples collected purposively from many observations in Naogaon district. Naogaon district (Rajshahi division) area is 3435.65 sq km, situated in between 24°32' and 25°13' north latitudes and in between 88°23' and 89°10' east longitudes. It is surrounded by west bengal state of India on the north, Natore and Rajshahi districts on the south, Joypurhat, Bogura and Natore districts on the east, Chapai Nawabganj district on the west (Banglapedia, 2024). 18,903 Saontals people live in Naogaon district, whereas Niamatpur, Dhamoirhat, Patnitala, and Sapahar upazilas are major settlements of them (BBS Census 2022). 151 samples collected from Dhamoirhat, Patnitala, and Sapahar upazila of Naogaon district. According to the number of population size, the sample size is determined as proportionately. The sample collection period was October 2024. Mixed method approach used to collect data consists of quantitative and qualitative in this study. Six focus group discussions (FGDs), 9 key informant interviews (KIIs) also used to accumulate qualitative data. A structured questionnaire was developed for quantitative data and a checklist was prepared for qualitative data. Variables described in table 1.

Table 1: Description of the Variables

Nature	Variable Name	Lebel	Description
Dependent Variable			
	MPI Category	is_poor	1=Poor, 0= Non-Poor
Independent Variables			
Household characteristics	Household size	HH_Size	Number of the member in an individual household
	Household Educated Member	HH_Edu_Mem	Number of educated members
Personal Information	Age	Age	Years of age

Nature	Variable Name	Lebel	Description
	Main Profession	M_Profession	1= Agro-based, 2=Others
Capitals	Sources of water	Sources_Water	1= Tubewell, 0= Supplied Water
	Total value of Physical Capital	TV_Physical_Cap	Average market price of all physical capital has been summed
	Total Value of Natural Capital	TV_Natural_Cap	Average market price of all-natural capital has been summed
	Amount of Microlending	Microlending	Amount of loan from microfinance institutions
	Amounnt of Savings	Amount_Savings	Amount of savings

Due to the dichotomous character of the dependent variable, the empirical model in this study uses the logit model, which takes a value of 1 if a household is MPI poor and 0 if MPInon-poor.

The logistic regression model is a type of generalized linear model that focuses on the linear regression model by linking the range of real numbers from 0 to 1.

$$P_i = \frac{1}{1+e^{-z_i}} \quad (1)$$

The term P_i is the probability that the i^{th} case will MPI poor and value of the L^i is the value of the unobserved contionous variable for this i^{th} case. This model is also assuming that L is linearly related to regressors (Gujarati et al., 2012).
Thus,

$$L_i = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \ldots \ldots + \beta_n x_n + u_i \quad (2)$$

The term L_i is the i^{th} value of dependent variable and x_i is i^{th} value of the independent variable. The term u_i is known as 'disturbance term' and exist the variability of the dependent variable not explained by the independent variable. Where n is the number of independent variables.

The regressions coefficients are estimated through an iterative maximum likelihood method.

5. Result and Discussion

5.1 Descriptive Analysis

The average age of 151 samples is 47.93 years, the minimum age is 25, and the maximum is 90 years among them. 86% male, 14% female and 93% Christian, only 7% faith in Animism among them. The mean of household size is 4.09, which is equal to our national household size. Average educated household members have about 2; that is a great concern. 108 respondents are involved in agro-based activities and 43 are involved in non agro-based activities; the mean of experience of work is 31.66 years, with a minimum of 5 years and a maximum of 75 years. 54% use supplied water, 46% use tube-well water of total respondents. The mean of physical capital value is BDT 23384.77, minimum 800, and maximum 26250. The mean of natural capital is BDT 96455.47, with a minimum of 200 and a maximum of 388200. 53% have microlending and 43% have savings among total respondents.

5.2 Quantitative Analysis

Table 2: MPI Category

MPI Category	**Freq.**	**Percent**
Non-Poor	56	37.09
Vulnerable to Poor	67	44.37
Poor	27	17.88
Severe Poor	1	0.66
Total	**151**	**100**

(Source: Author's Calculation)

Table 2 presents the distribution of households based on the Multidimensional Poverty Index (MPI). Among the 151 households surveyed, 44.37% are vulnerable to poverty, meaning they are at risk of falling into poverty. 37.09% are non-poor, indicating they do not experience significant deprivation. 17.88% are classified as poor, while only 0.66% are severely poor, representing a very small fraction facing extreme deprivation. The data highlights that a substantial portion of households is vulnerable, emphasizing the need for targeted interventions to prevent them from slipping into poverty.

Headcount Ratio, H = number of people poor, q/n, total household size
H = 28/151
H = 0.185

Intensity of Poverty, A = Sum of weighted value of poor number/number of poor people
A = 10.55/28
A = 0.377
MPI Value = H×A
MPI Value = 0.185×0.377
MPI = 0.07

Notes: MPI value range 0 to 1, tends to zero to express the number of less poor and tends to 1 to express the number of more poor of the total population.

Table 3: Regression Result

Variables	**is_poor**
Age	0.0516***
	(-0.0193)
HH_Size	0.520**
	(-0.223)
HH_Edu_Member	-0.0706
	(-0.194)
M_Profession	-0.43
	(-0.733)
Sources_Water	1.850***
	(-0.619)
TV_Physical_Cap	-3.81e-05*
	(-2.22E-05)
TV_Natural_Cap	-1.16e-06*
	(-6.29E-07)
Microlending	4.20E-06
	(-9.67E-06)
Amount_Savings	7.87E-06
	(-2.41E-05)
Constant	-5.718***
	(-1.536)
Observations	**151**
LR chi2(9)	**33.42**
Prob>chi2	**0.0001**
Pseudo R2	**0.2308**
***Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1**	

(Source: Author's Calculation)

Table 3 presents the results of a regression analysis examining factors influencing poverty status (is_poor). Among the variables, age has a positive and statistically significant effect on poverty status (0.0516, $p < 0.01$), indicating that as age increases, the likelihood of being poor also increases. Household size

(HH_Size) shows a strong positive relationship with poverty (0.520, $p < 0.01$), suggesting larger households are more likely to experience poverty. Sources of water are another significant factor, with a coefficient of 1.850 ($p < 0.01$), indicating that access to supplied water sources is associated with higher poverty levels. Additionally, both TV_Physical_Cap (-3.81e-05, $p < 0.05$) and TV_Natural_Cap (-1.16e-06, $p < 0.05$) have negative coefficients, suggesting that these forms of capital may reduce the likelihood of being poor. The constant term is also significant (-5.718, $p < 0.01$). The model includes 151 observations, with a likelihood ratio chi-squared statistic of 33.42 and a PseudoR-squared value of 0.2308, which means the dependent variable explains the model 23.08%.

Table 4: Odds Ratio result

is_poor	**Odds ratio**
Age	1.052953
HH_Size	1.68132
HH_Edu_Member	0.9318521
M_Profession	0.6506375
Sources_Water	6.357232
TV_Physical_Cap	0.9999619
TV_Natural_Cap	0.9999988
Microlending	1.000004
Amount_Savings	1.000008
Constant	**0.0032864**

(Source: Author's Calculation)

Table 4 states the odds ratio of the logistic regression model probability of being poor. If all other things remain constant, an increase of one year in household age is 5.3% more likely to increase the probability of being poor, an increase of one household member is 68.1% more likely to increase the probability of being poor, and one household member is educated. 6.8% less likely to probability of being poor, involvement of non-agro-based activities 34.93% less likely to probability of being poor, access to tube well water 535.72% more likely to probability of being poor that indicates a strong impact on poverty, physical capital and natural capital values close to 1 that show minimal impact on less likely probability of being poor, micro lending and savings have negligible effect on more likely to probability of being poor, constant odds ratio explain the baseline of being poor when all independent variables are zero.

The result of this study shows that poverty rate of indigenous people are more than three times higher from our national level (That is stated by Chakma &Matrot, (2016)). About 63% indigenous people are poor of our research that was observed many years ago by Kenway, & Plamer, (2007).

Age, household size, credit access has positive impact on poverty that is dissimilar and education, non-farm activities, capital have negative impact on poverty that is similar to the result of Tithi, Barmon, & Rahman, (2020).

5.3 Qualitative Analysis

> In the eleventh hour of a day, we have entered a kutcha house; the homemaker is preparing juice for her husband with leaves of pigeon pea for jaundice disease as medicine. As a jaundice patient, I would drink the juice with jaggery without finding any alternative way, while the young man was drinking the juice without any sweet elements! Those people who drink the bitter juice will feel the taste of it. The extreme poverty has compelled them to do unrecorded work.

Due to language complexity, the Saontal children drop out in primary school. They use the Saontali language to communicate with each other, but the alphabet of the Saontali language disappears. As a result, the children must face difficulties in capturing the Bengali language that is observed by Rahman, (2010).

> A student of class ten stated that she could not participate in the SSC examination last year because she was unable to bear the fee of the form fill-up. She was searching for work as a day laborer, but the landowner did not want her.
> Another student of Class 12, Joya Baske, said that she is staying a mess because her family could not bear the allocation fee of the college hostel. A large amount of form fill-up fee stops their education at class 10.

Geographical location is a significant factor for poverty. The financial condition of Shantinagar and Durgapur village people proves it appropriately. Their village is nearest to Bengali people's residences; they have enough opportunity to work. Without seasonal work, they do domestic work and go outside in search of jobs with general people. It is a message of peace that the majority of these two villages can eat meals at least two times in a day.

Hearing this information, you will be delighted that the Christian mission runs a school for their children taking a little amount of fee; these schools are residential. The students who achieve satisfactory results on the SSC examination

are admitted into Notre Dame College for boys and Holly Crose College for girls, providing special care. Four students have facilitated and completed their post-graduation education from the University of Dhaka and the University of Rajshahi in our study areas. I am also happy that seven girls are taking nursing education; two girls are preparing for the future to enroll in this field among 151 households.

The people of non-agro-based are less likely to be poor because they pull vans and work as NGO workers; they are totally solvent in our study area. Two household heads are involved in the primary education of our sample size; they are enjoying life as usual. Being uneducated, they do not judge land documents and preserve them properly. By taking bad opportunities, the powerful Muslim people grab their land and file a case against the Saontals. Three households in our sample are passing their days with great concern for land complexity. The cost of continuing the case is impossible after some days. In this case, they are defeated in case and Muslim people grab their land easily.

The people who make handicrafts can work every day of the year. Lack of capital is a resistance to running this art. They claim that the price of this product is low, and intermediate buyers gain more profit. Modern plastic available products are partially substituting handcrafted products. For this reason, they are losing interest in making handicrafts.

Mango production is reducing crop production in Sapahar upazila. The Saontals women can't work in the mango garden, and they are losing a great opportunity for employment. The males work in the mango garden during the mango season and go outside in the off season. As a result, the male households are passing their days with some satisfaction, but female households, especially widows, are suffering miseries.

6. Conclusion

This research contributes in achieving Goal 1 of the SDG target in 2030, ensuring inclusive participation of indigenous people. The statistical significance of the logistic regression model in explaining a substantial variance reduction of poverty highlights the robustness of the analytical approach. The personal factor age shows the positive relationship with poor and main professions that are involved in agro-based activities and the positive impact on poverty. Capital factors sources of water who use tube well water show a strong positive impact on poverty, and counterparts supplied water negatively impact on poverty. Physical capital and natural capital have a weekly negative impact on poverty. Microlending and savings have a weekly positive impact on poverty.

Education, pure drinking water, sanitation, health services, and access to credit have reduced poverty at Malpukur village. On the other hand, the deprivation of education, sanitation, health services, and access to credit has increased poverty in Kornai village. Close residents of Durgapur and Shantinagar with mainstream people get more opportunities for agro-based activities and domestic work than other villages in our study area. Consequently, they can eat meals at least two times in a day. The Saontal people of Bakroil village make handicrafts almost every day. They can earn cash money from this art and buy food. Lack of capital and more profit from a third party is a great challenge to sustaining this art. Mango production in Sapahar upazila has increased the labor wage rate of male labor and lost the work of female labor. Especially, the widowed females are the most affected by this problem.

In this study, the vulnerable to poor group has drawn deep concentration. The vulnerable to the poor group will enter the poor group during shock and stress.

This research extends beyond academia, providing effective and actionable ways for practitioners and policymakers. By focusing on the specific problem and impact of influential factors, the study guides the development of indigenous people of northern Bangladesh. The guardians of Saontal students can't bear the expensive cost of education, especially the large amount of the form fill-up fee, as a resistance to participating in the SSC examination. The incomplete degree does not create any job opportunities, and they are compelled to agrarian work. The cost of marriage, the Sizer operation expenditure of the mother, and chronic disease tend them toward poverty. Lack of education, capital, sanitation, pure drinking water, cooking fuel, adequate housing, only dependency on agro-based activities, and climate change are obstacles for indigenous people.

The findings of the logistic regression prefer to ensure education and sources of pure drinking water. To improve the livelihoods of indigenous people of northern Bangladesh, the government should allocate a special budget or a separate ministry, like the Chittagong Hill Tracts. Only enrollment in school for indigenous children never brings the expected outcome. To make skilled manpower, higher education or vocational training must be ensured for them that will reduce dependency on agro-based activities. Government or non-government organizations should work to confirm sanitation and sources of pure drinking water. Ecological balance is necessary for collecting protein, food, and fruits from nature. So, the government should take proper steps in this regard.

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