A STUDY ON RURAL OUT-MIGRATION IN KOCH BIHAR DISTRICT, WEST BENGAL: A GEOGRAPHICAL ANALYSIS

A Thesis Submitted to the University of North Bengal
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Submitted By

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DECLARATION

I hereby declared that the thesis entitled "**A Study on Rural Out-Migration in Koch Bihar District, West Bengal: A Geographical Analysis**" has been prepared by me under the supervision of Professor (Dr.) Ranjan Roy, Department of Geography & Applied Geography, University of North Bengal, Raja Rammohunpur, Darjeeling. No part of this thesis has been formed the basis for the award or any degree or fellowship previously.

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CERTIFICATE

This is to certify that **Sri Bhupen Barman** has prepared the thesis entitled **"A Study on Rural Out-Migration in Koch Bihar District, West Bengal: A Geographical Analysis"** for the award of Doctor of Philosophy (Ph.D) degree in Geography & Applied Geography of University of North Bengal, under my supervision. He has carried out his research work at the Department of Geography & Applied Geography of University of North Bengal and thesis has been prepared based on the extensive field study for collection of primary data and secondary sources of information.

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ABSTRACT

TITLE: A STUDY ON RURAL OUT-MIGRATION IN KOCH BIHAR DISTRICT, WEST BENGAL: A GEOGRAPHICAL ANALYSIS

Human migration is the movement of peoples from one place to another place by temporarily or permanently. The process of migration is not a new phenomenon, and it is a continuous process. India is one of the oldest civilisations globally, which had a significant history of migration worldwide. After the independence, the redistribution of population and different social, economic, and demographic factors changed the migration trend. The Census of India (2011) focused that migration is two types viz., by birthplace (POB) and by place of the last residence (POLR). In 1981 Census provided employment, education, and the family moved, marriage and other reasons are the major causes of migration, while the 1991 Census added the business and natural calamities for migration causes. The Census of India (2001; 2011) also identified the causes of migration are; work/employment, business, education, marriage, moved after birth, household, etc. Otherwise, the NSSO (National Sample Survey Organisation) (1993, 1999-2000 & 2007-2008) identified five reasons for migration in rural areas.

Koch Bihar district has been selected as the study area located in the north-eastern part of West Bengal. The latitudinal and longitudinal extension of the study area approximately is $25^0 57' 47'' N$ to $26^0 36' 20'' N$ and $88^0 47' 44'' E$ to $89^0 54' 35'' E$, respectively, and the total geographical area is approximately 3387 sq. km. The western, south-western and southern boundary of the study area is bounded by Bangladesh, while the northern border is bounded with Alipurduar district and Assam bounds the eastern part. Koch Bihar district is an agricultural district in West Bengal where approximately 70 percent of people are dependent on agriculture. Most people belong to scheduled caste and minority communities; there is no notable industry in the district. Income from the agricultural sector is very low and even erratic both for farmers and agricultural labourers.

Consequently, in search of secured job opportunities and better livelihood, people from the rural areas have migrated from their birthplace. On the other hand, the shortage of agricultural labourers during the peak agricultural season also affects its economy. The out-migration is undergoing the radical change in demographic patterns as streams in the district.

The present study is dependent on both primary and secondary data. The primary data has been collected through the household survey scheduled over 5 percent of the total household

at 95 percent confidence level of the selected villages in the district. The simple random sampling techniques collected the samples. The study has selected both the central and peripheral villages at every block in the district. The secondary data has been collected from different block headquarters, district headquarters, different government department publications, various journals, books, thesis, internet sources, etc. The Logistic Regression Model has been applied for determining the factors affecting rural out-migration in Koch Bihar district. The Multiple Regression Model has been applied for assessing the MGNREG Scheme for rural income and employment generation on rural out-migration. Index Satisfaction (IS) has been calculated based on different socio-economic indicators for rural out-migration.

However, there are nine chapters in the thesis. The first chapter in the thesis indicating the introductory part for the literature survey, scope of research, hypothesis, and objectives of the investigation, data sources, and methodologies selected for the study.

The second chapter reveals the introduction of the physical and socio-economic background of the study area. The district belongs to the sub-Himalayan foothill region; whereas the maximum altitude is 75 meters and the minimum altitude is 28 meters. The average height of Koch Bihar district is 60 M from MSL. Koch Bihar is generally flat topography where the general slope is North West to the south-east. Mekhliganj, Haldibari have the maximum altitude where the minimum altitude is found in Dinhata, Sitalkhuchi, and Sitai. Koch Bihar is a low lying Teesta- Torsa basin. The Koch Bihar is well-drained by several perennial and ephemeral rivers: Teesta, Torsa, Kaljani, Ghargharia, Raidak, or Sonkosh and Gadadhar. The climate of Koch Bihar is wet monsoon type. The first Census of Koch Bihar conducted from 1871 to 1872 showed the population figure 532565 persons, and the average population density was 407 persons per miles. After one decade in the 1881 Census, the population rose 13.2 percent. Feudatory rulers under the British regime are ruling another essential feature of the district Koch Bihar population. The state has attracted a considerable number of immigrants from other places, including neighbouring districts. The district having highest percentage (50.17%) of scheduled caste communities (SC) in India.

The third chapter deals with the general overview of rural out-migration in India and Koch Bihar district. The chapter represents the inter-district out-migration flow in West Bengal, the balance of rural out-migration, distribution of Scheduled Caste (SC), Scheduled Tribe (ST) other rural out-migration. The 2011 Census shows the bilateral flows of migration from State/U.Ts at a 5-year interval. It is clear that a significant number of migrants coming out from Uttar Pradesh, Bihar, Madhya Pradesh, and West Bengal during this period. The study

found the primary receivers of migrants are Maharashtra, Gujarat, Madhya Pradesh, Delhi, and Punjab. The NSSO 64th round 2007-2008 also shows that the male out-migration from Kerala (23.8%) was dominant followed by Haryana (20.8%), Uttarakhand (16.6%) whereas it was least in Delhi (0.1%). The female population rural out-migration was predominantly high in Haryana (33.8%), followed by Himachal Pradesh (32.4%). The district Koch Bihar comprises an overall 6.15 percent out-migration. In comparison, 4.01 percent was males, and 8.42 percent was female out-migration rate is recorded to total district population as per the Census of India, 2011. The districts from the North Bengal region, namely Koch Bihar, Maldah, and Uttar Dinajpur, are recognized as a positive balance of rural out-migration in West Bengal. The balance of male rural out-migration, the Koch Bihar district (+2.06) has the highest proportion of male rural out-migration than the other districts of West Bengal.

The fourth chapter deals with migrant and non-migrant respondents' nature and characteristics based on different socio-economic indicators. The research shows that 86.4 percent were male, and the remaining 13.6 percent were female. And out of this, 68.3 percent were overall migrant respondents, and 31.7 percent were non-migrants. The majority of the migrant respondents were male and only 8 percent were female migrant respondents in Koch Bihar district. The study hypothesized that the rural out-migration in the study area is age and gender-selective. 98.2 percent of the surveyed migrant respondents were categorised under the working age group 15-65, while 86.4 percent and 11.8 percent were male and female respondents, respectively.

The fifth chapter focuses on the trend and pattern of rural out-migration in Koch Bihar district. The study found that rural out-migration is a universal phenomenon changing from time to time and affected the overall economy and social development. The Census of India has shown that out-migration in 1951 was 2.25 percentage which increased to 2.33 percent in 1991 and 6.15 percent in 2011. It is also crucial that the out-migration flow from rural to urban areas increases, which is also called a survival strategy. The chapter has identified the migration projection for 2031 in the Koch Bihar district. The simplest method of prediction is based on algebraically. For the population projection, a different way is used, such as algebraic and component methods. Different growth rates are used in the algebraic approach, like "linear growth rate, geometric growth rate, and exponential growth rate." The growth rate is high in the linear growth model and least in the exponential growth model. For the projection of total out-migrants of the district, the linear growth model is used because of its simplicity and high rate of growth among the various growth models (Geometric and Exponential) with assuming the growth rate of 2031.

Chapter six identified the causes of rural out-migration from the secondary as well as primary data. Both the Census of India and NSSO has identified that male out-migration is dominated by work/employment-related reason. At the same time, the majority of females are migrated due to marriage-related reasons. 79.9 percent of males are migrated due to employment-related reason from one state to another state and remaining 7.8 percent for studies, 7.6 percent for movement with parents or earning member, and 3 percent for other related reason. In contrast, 83.4 percent of females are migrated due to marriage migration. Of them, 2.3 percent are females relocated due to work or employment. The Logistic Regression Model has been used for the determination of different socio-economic indicators of out-migration. The regression coefficient of the age group 0-14 years is -1.874, and the odds ratio (OR) is 0.154, which implies that the age groups 0-14 years have an 84.6 percentage lower risk of rural out-migration than the age group 15-65 years. The district is dominated by male rural out-migration with the working population age group.

Chapter seven discussed the different economic and socio-demographic consequences of rural out-migration in Koch Bihar district. The results found that rural out-migration has a significant impact on the occupation, the number of working days, income, and expenditure before and after out-migration. It is also important to note that rural out-migration helps rural people raise their living conditions after out-migration. It has been cleared that the effects of rural out-migration in both positive and negative origin and destinations. The rural out-migration has influenced the district's total population every decade, which has signed on the population growth.

Chapter eight revealed with "Mahatma Gandhi Rural Employment Guarantee Scheme" (MGNREGS) on the rural out-migration in Koch Bihar district. The government of India introduced MGNREGA in 2006 for enhancing the livelihood security in rural areas of India through providing employment guarantees. This programme is one of the most effective programmes in rural areas, where it aims to provide 100 days of employment for the unskilled manual work to the adult member of every family. This scheme provides income directly to the unskilled labour into the rural areas. In the FY 2017-2018, 47.83 percent of the household to the total household in the district have been provided under this scheme. The field study revealed that 83.9 percent have job cards out of all respondents, while 65.5 percent and 33.5 percent indicate migrant and non-migrant respondents. Multiple Regression Model identified that higher the family incomes, chances to earn from MGNREGS is low. The coefficient value of the number of job cards in the family indicates a positive relative

relationship to increase the scheme's wages. Another essential variable, the frequency of work in a year, is highly positively correlated with wages earn from MGNREGS.

The last chapter has summarised the significant findings of all chapters. The present research is the rural out-migration in Koch Bihar district according to the geographical perspective. As stated in the hypothesis, the rural out-migration in Koch Bihar district is age and gender-selective. The research also proved that there is a sign of seasonality in migration streams from rural areas to urban areas, which is a significant weapon to fight against unemployment. Peoples are moving from one place to another place for reducing poverty and attain better socio-economic opportunities. The trend of rural to urban destinations is an emerging trend and has significantly impacted social, economic, and demographic elements. Finally, the study has given some crucial suggestions to check the rural out-migration in Koch Bihar district.

PREFACE

The present study reveals a geographical analysis of rural out-migration in Koch Bihar district. The research is findings the general overview, trend, pattern, nature, characteristics, causes, consequences, and assessment of MNGREG Scheme on the rural out-migration in geographical perspectives. This investigation has been done from the collection of data from both the migrant and non-migrant households of Koch Bihar district. Geographically this district is located at the foothills of Himalaya, where one-third of the district boundary is covered by the Indo-Bangladesh border. Koch Bihar has been transformed from an earlier kingdom to a state and from a state to the present status of a district. Unstill 28th August 1949 Koch Bihar was a Regal State administered by Maharaja of Koch Bihar, who had been a contributory ruler under the British Government. After the independence, the propensity of movement of rural peoples from Koch Bihar district to another district or other state has been increased due to various reasons like lack of job opportunities, shortage of cultivating land, no industrialisation, etc.

In this situation, the research topic **"A Study on Rural Out-Migration in Koch Bihar District, West Bengal: A Geographical Analysis"** is an attempt to analyse to present a comparative study on the socio-economic condition of rural out-migrants and non-migrant peoples of Koch Bihar district. The research has been an attempt from the collection of samples from 64 villages of 12 administrative Community Development blocks (CD Block) in Koch Bihar district and analyse the geographical variation of rural out-migration based on different selected socio-economic indicators and provides some suggestions for reduction of rural out-migration. The study has been divided into nine chapters: Chapter-1Introduction; Chapter-2 Geographical Background of Koch Bihar District; Chapter-3 Overview of the Rural Out-Migration Scenario; Chapter-4 Nature and Socio-Economic Characteristics of Migrant and Non-Migrant Households of Koch Bihar District; Chapter-5 Trend and Patterns of Rural Out-Migration in the District; Chapter-6 Causes of Rural Out-Migration in the District; Chapter-7 Consequences of Rural Out-Migration in the District; Chapter-8 Assessment of MGNREGS on Rural Out-migration in the District and Chapter-9 Suggestions and Conclusions. This is important that this research will help you understand the probability of risk factors of rural out-migration by using different statistical model, graphical representation and thematic mapping which is beneficial for the policymakers, governments, researchers, and others.

Date: 03.03.2021   **Bhupen Barman**

ACKNOWLEDGEMENTS

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INTRODUCTION

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INTRODUCTION

1.1. Introduction:

Migration is the most significant component in demography for studying the changes in the population size. Migration is the third component of populationchanges after the birth rate and death rate. It is the movement of an individual from one place to another. In demography, this movement is often defined as a permanent change of residence or long-term residence change (Toney and Bailey, 2014). This change of human residence occurs from one geographical region to another permanently or temporarily, and the socio-economic factors influence it. Generally, migrations is articulated by the different push and pull factors like poverty, scarcity of cultivable land, unemployment, urbanization, excessive population pressure on limited resources, environmental degradation, etc. In these circumstances, the individual decision to migrate involves the process of weighing up potential costs and benefits (Davin, 1999).

1.2. Definitions of Migration:

The term migration is so broad that it varies in nature, scope, or purpose of the study or discussion. In this pretext, a geographer studies it on the time and distance significance, whereas a sociologist has emphasized social and cultural consequences of migration. The 'out-migration' is considered a phenomenon of moving out from the source of origin and departs for the same geographical unit's destination source. So, in this context, there are various definitions of migration.

Lee (1966) defines the migration "as a permanent or semi-permanent change of residence. No restriction is placed upon the distance of the movement or the voluntary and involuntary nature of the act, and the distinction is made between external and internal migration."

An individual is reviewed as a "migrant" if his/her place of origin is dissimilar from the "place of enumeration" (Census of India, 1961). In the 1971 Census, an existing question like the last residence was added to assemble migration information. The Census reveals that migrants depend on the "place of birth" and "place of usual residence."

Kok (1997) emphasized the migration is defined as the movement of people over some distance and from one usual place of residence to other places.

According to the "Oxford Advanced Learner's Dictionary of Current English," to migrate means to "move from one place to another (to live there)" while the Dictionary of Human Geography (2000) migration is "permanent or semi-permanent change of residence by an individual or group of places."

Bhagat and Lusome (2006) emphasized if "the place of birth or place of the last residence is different from the place of enumeration; a person is defined as a migrant. On the other hand, if the place of the last residence and the place of enumeration is the same is a non-migrant". Rajan et al. (2020) pointed out that during the COVID-19 pandemic, India's Government implements a nationwide lockdown on 24 March 2020 with strict restrictions on migration and transportation links summarily cut off overnight. In India, "the pandemic precipitated a severe 'crisis of mobility,' with migrant labourers in many major cities seeking to return to their hometowns. Their desperate attempts to return home by any means available rendered the lockdown ineffective in several areas, prompting clashes with authorities, last-minute policy relief and, eventually, the arrangement of transport measures".

1.3. Terminologies of Migration: There are some important terminologies on migration as follows;

Migrant: It is the person who relocates within some geographical units or political units within the country (Census of India, 2011).

Out-Migrant and In-Migrant: The person who leaves their birthplace temporarily or permanently is known as out-migrants, whereas the person who enters another destination is known as in-migrant (Census of India, 2011).

In-Migration and Out-Migration: Both types of the journey of migration are connected to internal migration. In-migration refers to the migration occurring within the same country. On the other hand, out-migration defines as "migration out of the area". As an example, we may say migration from West Bengal to Delhi is in-migration, while West Bengal is out-migration.

Immigration and Emigration: The term Immigration and Emigration are related to international migration. Immigration means migration in people from one country to another country, and emigration refers to migration out of the country, e.g., if people from our country moving out to Bangladesh are termed as immigration for Bangladesh. In contrast, for India, it is called the emigration phenomenon.

Refugee: When a person is living outside in his/her country from his/her birthplace due to panic of oppression or persecution for causes of racism, religious persecution, nationality, membership in a specific social group, or political opinion (Nair, 2007), India is host country of the refugee from the countries like Bangladesh, Srilanka, China, etc.

Streams of Migration: It indicates when a group of peoples is moving from one country to another within a particular period. It is the movement of common origin and destination is called a migration stream or migration current.

Migration Interval: It is the occurrence of migration over a different period in a region categorized into intervals of 1to 4 years or more than four years. The particular interval of the year is known as the migration interval.

Place of Origin (Departure): The place of birth of a migrant and the place which people leave is the place of origin.

Place of Destination (Arrival): The place of arrival or place of visit is called the place of destination.

Gross and Net Migration: Gross migration is the sum of in-migration and out-migration. The term net migration refers to the balance of movements in opposing directions. Regarding a specific area, it is the difference between in-migration and out-migration (Clark, 2020).

Voluntary Migration: Migrant movement is regulated by their discretion to choose whether to migrate or not to choose an area of migration termed as (Ottonelli and Torresi, 2013).

Forced Migration: The migration event which happened by compulsion is known as forced migration. It is caused by physical and social calamities like earthquakes, landslides, floods, famine, war, etc. (Peterson, 1958; Betts, 2009).

Impelled Migration: Individuals are not forced out of their country but leave because of the persistence of adverse situations such as warfare, political problems, religious persecution, etc. This migration is also called "reluctant" or "imposed" migration (Peterson, 1958).

Step Migration: A migrant move from his/her place of birth to the last destination. This progression is called step migration Example- village, to a town, and finally to a city referred by Ravenstein in 1885 (Sewastynowicz, 1985).

Chain Migration: "A series of migrations within a family or defined group of people is called chain migration. A chain migration usually begins with one family member who supposed to send the remittance from the place of work to conduct a journey for the other family members to the new location, and the same source of origin is usually considered as migration fields the congregating of people from a particular place into certain localities or small towns" (Banerjee, 1983).

Border migration: Migration is involving take place between two national borders.

Temporary migration: When migrants spent time away from habitual residence has a limited time duration.

Permanent migration: When migrants spent time away from habitual residence, it has no limited time duration.

Contract migration: Labour migrants are moved for a temporary worker programme for a limited period.

Seasonal migration: Peoples moved from one place to another place and lived less than one year, and migrated over time for suitable living conditions and occupation purposes.

Individual Migration: Peoples are migrated individually for the weak economic condition.

Family migration: Peoples migrated with family from one place to another place.

Massive migration: Large numbers of peoples are migrated from one to another destination.

Migration flow: Peoples moving from one location to another location during a specific period. It also depending on direction; it is called either immigration or emigration flow.

Human Mobility: Human mobility defines how individual peoples moves within a geographical region. Human mobility studies reference movements rather than the groups that made them and the places where they occurred (Montanari, 2005).

Reverse Migration: When peoples moved "destination" to "origin," called reverse migration or return migration, the COVID-19 situation in India triggered a massive reverse migration of thousands of labourers back to their villages (Dandekar and Ghai, 2020).

1.4. Major Theories of Migration:

In the early 1960s, in the time of quantitative revolution in geography, we found different theories and models among geographers. Despite great difficulties, the theory and model building of migration is quite encouraging, which has been started from 1885 of Ravenstein's laws of migration. E. Lee (1966, pp.288-297) has given a set of hypotheses relating to Push and Pull factors of migration. Many theories and models are framed on migration. We discuss some of the theories and models of migration.

Ernest George Ravenstein first published his immigration laws in 1885 in the "Journal of the Statistical Society."It was the first formal attempt at theoretical formulations on migration. His analysis was done based on movements of peoples of inter-country in Britain on Census data. He studied the following essential points;

a. The distance of migration: Migrants are select short distances for their movement from one place to another. It indicates distance-decay function and performance for a large center of commerce and industry among long-distance migration.... "even in the case of countries of dispersion which have a population to spare for other countries, there takes place an inflow of migration across that border which lies furthest away from the great center of absorption" (Ravenstein, 1885:191).

b. Migration Stages: The choice and destination of migration by migrants from rural areas first move to nearby towns and large cities. The long-distance from the

originator which sustains them, the less speedily do these course flows (Ravenstein, 1885:191).

c. Rural-Urban differentiation: The natives of the towns have a low degree of propensity to migrate than their counterparts in the countryside.

The theories of migration developed by many scholars after Ravenstein model/ Lewis dual economy model (1954) and its Renis-Fei (1961) extension have an implicit reference to rural-urban migration? According to this theory, wage and social factors are responsible for migration. The higher wages rate indicates better job opportunities, and good educational facilities are responsible for urban migration from rural areas.

The Gravity model is based on Newton's laws of gravitation for population movements. Scholar John Q. Stewart first pointed out the isomorphic relationship of population movements with Newton's Laws of gravitation (James, 1972, p.517), which later became known as the Gravity model. Accordingly, the index of migration can be expressed as follows:

$$MI = K.\frac{P_1 P_2,}{D_2}$$

MI is Migration Index, P1= Population size of settlement 1, P2 is the population size of settlement 2, d is the distance between two settlements, and K is the constant. This model provided a cross-section of the micro-level interaction system of migration regarding time, space, and direction. This model believes that any area's power to attract migrants dependson its economic base.

In 1940, G.K. Zipf gave a concept of specific population size and distance relationship in his 'principle of least Effort.' His theory expressed as follows;

$$M_{ij} = K.\frac{P_i P_j}{D_{ij}}$$

Where Mij is the magnitude of movement between two places, i and j, Pi and Pj denote population sizes in places i and j, Dij is the distance between the places i and j, and K is the constant. According to Zipf, the greater distance needed more significant effort and reduced the number of migrants. The application of this theory in American cities did reveal an inverse correlation between distance and magnitude of migration.

In the year 1940, S.A. Stouffer introduced the intervening opportunities model to improve upon the Zipf's principle of least effort. According to Stauffer,the distance should be indicated in "socio-economic" rather than geometric terms for determining migration. His hypothesis of the theory was that the number of people relocating for a given distance was

'directly proportional to the number of opportunities,' i.e., the number of opportunities by places between the two places in question (Stouffer, 1940, p.846). It may be expressed as under-

$$Y = K.\frac{X^*}{X}$$

Y is an assumed number of out-migrants from a place to a particulates area, x* is several opportunities within this area, and X is the 'number of opportunities intervening between origin and midway,' and K is Constant. In this case, the real opportunities of migrants like employment, environment, housing, etc.

Everett, S. Lee (1966) reformulated 'Ravenstein's laws of migration' to analyze the internal process of migration. He explained his theories by the push and pull factors. He generalized the following essential factors for the decision of migration:

a) Factors determining in the area of origin.

b) Factors determining at the destination.

c) Factors that act as intervening obstacles and

d) Personal factors that specific to the individual.

Lee indicates the factor influencing the migrant's perception into pluses, minuses, and zeroes; the intervening obstacles and individual perceptions are the fundamental determinants in Lee's model. The Pull forces or pluses attract people towards an area, whereas pushing factors or minuses drive people away, and zero maintains the balance between push and pull factors.
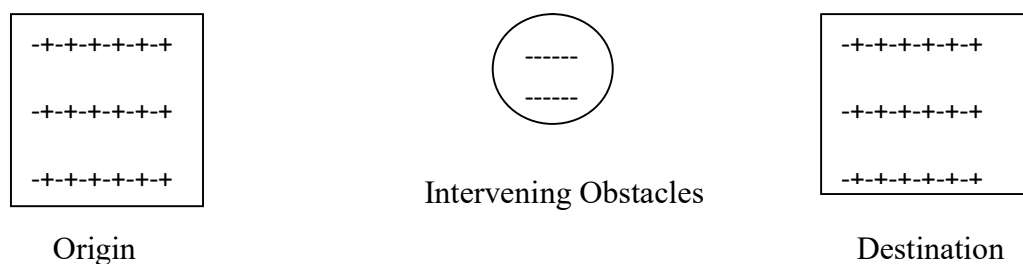
Figure 1.1: Lee's Model of Migration

1.5. Literature Review:

1.5.1. Nature, Pattern and Flow of Out-Migration

Global Perspectives

Pu etal. (2019), in their research entitled "A spatial dynamic panel approach to modeling the space-time dynamics of interprovincial migration flows in China" found that migration plays a significant role in growth and development. They identified spatial and temporal aspects of

migration flows in China. The result shows the population and age structure's size play significant roles in China's migration process.

Nabi (1992), in his article "Dynamics of internal migration in Bangladesh," found that its high population density determined the internal migration characteristics and flow. This was also mentioned that the unequal hierarchical relations of people with land in Bangladesh possess migration.

Patnaik, A. (1995), in his article "Agriculture and Rural Out-Migration in Central Asia, 1960-91," depicted migration is the crucial element for social mobility. The research mainly focused on how the agriculture sector reflects rural migration in Central Asia.

In his research, KC (2003) found "Internal Migration in Nepal" the volume and pattern of life-time internal migration by zones, regions, and districts that discuss various migration streams. The nature of internal migrants and non-migrants was studied concerning literacy, occupational and ethnic status.

Mberu (2005) discussed in the article entitled "Who Moves and Who Stays? Rural Out-Migration in Nigeria," studied the multinomial logistic regression model, which predicts the association between individual households' characteristics, education, health, ethnicity, etc.

Rebhun and Brown (2015), in their research "Patterns and selectivities of urban/rural migration in Israel," have identified rural to urban out-migration in Israel. They pointed to a comparative study on the rural and urban migration pattern of Jews and Non-Jews. Urban-rural migration emphasizes the importance of specific individual characteristics and reflects the impact of life course and socio-demographic characteristics.

National Perspectives

The present study reveals to review some critical, relevant literature related to the issue of migration.

Scholar Davis (1951) in his study "The Population of India and Pakistan" pointed out the prevalence of caste, joint family system, different tradition rules of society, language and cultural diversity, less education, rural agricultural society of India indicating the historically Indians are less mobile.

De Haan (2002) studied in his article "Migration and livelihoods in historical perspective: A case study of Bihar, India" which revealed that 'unskilled labours are not migratory, that the migration has remained circular.' The research attempts to understand the complicated relationship between migration from the origin and socio-economic development. The research's main focus was on the lower section of the society. The result

has shown that western Bihar has higher mobility of the population, transforming its societal and economic structure.

Lusome and Bhagat (2006) in the study "Trends and patterns of internal migration in India, 1971-2001" reveal to "provide the trends and patterns of internal migration during 1971-2001" based on census data for that period. Results depict that the scenario of internal migration has changed over the years. However, it is found that the growth of internal movement varies by sex, and the streams of migration and the 'dynamism of the Indian population has significantly increased during the 1990s'.

Keshari and Bhagat (2010) in the paper "Temporary and seasonal migration in India" studied that 'India is the second-most populous country in the world' and socio-economic variations reflected in the pattern of temporary and seasonal migration. They identified that seasonal migration for employment purposes is one of India's most essential livelihood strategies.

Basu and Chakraborty (2010) explained in their paper "Migration from Bihar, Orissa, and Uttar Pradesh to West Bengal during the period 1901-199" the size and features of out-migrants from Bihar, Orissa, and Uttar Pradesh. They identified more than 80 percent of the total immigrants in West Bengal.

Sundari (2011), in the paper "Gender Dimension of Internal Migration: A Spatial Analysis of Tamilnadu" reveals the changing trends and pattern of female migration in Tamilnadu state and its districts. This paper examined the female migrant population with their proper reason.

Taralekar et al.(2012) studied in their paper "A Study to Assess Pattern of Migration across India Based on Census Data" the pattern of interstate and international migration, which depends on the usual place of residence, for all duration of zone-wise in India and its reasons for migration and to assess push and pull factors influencing migration. This paper finds these migration patterns are associated with various factors like GDP, Literacy rate, Population density, and Urbanization.

Dhak (2014), in his paper "Present out-migration Pattern and Issues for Bihar," analyses the recent pattern and determinants of out-migration in Bihar. This paper mainly focuses on a comparative picture of the all-India figures that have also been presented throughout. In this, the people of Bihar show a preference for migrating to other states. Job opportunities in the other states increasingly attract these migrants from Bihar; instead, the lion's shares of them migrate to become self-employed in their migratory destinations. This

paper also advocates a policy framework that would recognize migration across states in India.

Chandrasekhar and Sharma (2015) pointed in their study "Urbanization and spatial patterns of internal migration in India" out three types of migration mobility have been pronounced; short-term, commuting, and return migrations in India. The persons who have migrated one month to 6 months but less than one year are called short-term migrants, while a commuting worker his/her place of work is not fixed, or place of work differs from the usual place of residence. As per statistics in 2009-10, there are 8.05 million commuters in India. Commuting workers are one of the essential characteristics of the population in developing countries.

Kone et al.(2018) depicted in their study "Internal borders and migration in India" internal migration as the critical component for India's economic growth and development. The used district-wise migration mobility in India as per the 2001 Census and highlighted the role of "state borders" as necessary "impediments to internal mobility."

Bhagat and Keshri (2018) studied the intensity and flow of internal migration in the country in their study "Internal Migration in India: Intensity, Flows, and Impact". They focused on "three levels of migration" like "intra-district, inter-district, and inter-state migration." They pointed out that the mobility, including within and between the state migrants, consists of 30 percent of the Indian population and find out that the intensity of migration is based on the permanent or semi-permanent change of residence, which does not include seasonal and migration. Moreover, this is the primary reason forthe slow mobility of India compared to other Asian countries.

Bhattacharjee (2020) reveals in the study "Development and internal out-migration in India in the post-economic reform era" whereinternal out-migration aspects within the country after the post-independence era at the state level. She used the panel regression method to measure the states' out-migration behaviour in development policies' milieu. The study development has been categorised in different sectors like sector-wise, gender-wise, stream-wise, etc.

Mitra and Murayama (2012) in their paper entitled "Rural to urban migration: a district-level analysis for India" which attempts to studied the "rural-urban migration" for gender-wise separately at the district level (inter-state and intra-state), and these papers showed different rates of migration and finally delineates some implications of migration in terms of health and other infrastructural amenities at the place of destination.

Prasad et al.(2009) explained the "socio-economic and demographic" features of migrants and their types, pattern, history, and migration in their paper "Migration to Greater Mumbai Urban Agglomeration: A Study of Characteristics of Principal Migrants and Their Social Linkage".

Another critical study "Patterns and Determinants of Female Migration in India: Insights from Census", Mahapatro, (2010) shows that the trends, features, and patterns of female migration in the country and identified the determinants of the female migrants.

Singh (2010) in his paper "Migrants to Mumbai: District wise Inflow and Characteristics" attempts a comparative analysis and characteristics of migrants and non-migrants in Mumbai. This paper examined the best information on in-migrants and out-migrants movement during the period of 199-2001. He also analyzed the overall characteristics of the migrant household.

Korra (2011), in his paper "Nature and Characteristics of Seasonal Migration; A Case Study in Mahabubnagar District of Andhra Pradesh" discussed the rural condition of migrant and non-migrant households. This paper also deals with the nature and form of the migration process in the villages. This paper nicely presented examples of different case studies of migrant workers from villages, from where it expresses the villages' real situation.

1.5.2. Determinants of Out-Migration

Global Perspectives

In their study "Distribution of Distance associated with Marriage Migration: A Micro level Study of Bangladesh", Rahman and Akter (2010) highlighted 'the marriage' is a potent migration factor. Marriage imposes economic and socio-cultural constraints on both women and men. The pattern of marriage migration varies from society to society according to customs and norms. So, this study investigated the characteristics of marriage migrants; and examines the relationship between distance and marriage migration.

Nurullah and Islam (2011) reveals in their work "Determinants of socio-economic characteristics on female migrants: Logistics regression model approach", migration is an essential factor in changinga region or a country's size. They studied the effects of socio-demographic features of out-migrants.

The causes of Rural-Urban Migration in a geographical region have been done by Okhankhuele and Opafunso (2013) in their work "Causes and Consequences of Rural-Urban Migration Nigeria: A Case Study of Ogun Waterside Local Government Area of Ogun State". They used "purposive sampling techniques" to collect data from households. It found "the majority of the migrants migrated to continue their education rather than searching

foremployment. It also revealed that the consequences of out-migration on the family include assisting parents in their profession, lack of workforce to work on farms, and desertion of the area to the aged and children. The paper recommends concerted government policy aimed at closing the lacuna between wage and other socio-economic differentials between the rural and urban areas, government's support in the development and funding of small and medium scale rural enterprises and agriculture".

Sander (2014) in the study "Internal Migration in Germany, 1995-2010: New Insights intoEast-West Migration and Re-urbanisation" reveals probale determinants and consequences of internal migration stream affects regional distribution of population.

Tegegne and Penker (2016), in their research "Determinants of rural out-migration in Ethiopia: Who stays and who goes?" has rural out-migration in Ethiopia is a common phenomenon. They surveyed the determinants of household migration by using the logistic regression model, and they found a positive relationship among migration decisions with different socio-economic characteristics like age, household size, educational status, etc.

National Perspectives

Ramasamy (1998) presented a paper "Rural labour Migration: Causes, Consequences, and Remedies"where he explained that different sectors had triggered rural-urban migration. The urban areas are well ahead of rural areas in terms of industrial and commercial activities, which attract job-seeking rural people;the push factor also operates from behind as sometimes worsening economic statuses such as stagnating agriculture and land unavailability, extensive farming, and growing pressure of unemployment. He finds out that the process of labour migration cannot be stopped entirely in a country like ours; it can be smoothened out and harmonized. Therefore, "investment in the social infrastructure is highly required and villages" must be the "focal point of development," only then the intractable problems associated with rural-urban migration can be effectively tackled.

Scholars Singh and Aggarwal in 1998 in their paper "Rural-Urban Migration: The Rate of Pushand Pull factors Revisited" revealed "the rate of major push and pull factors behind the migration based on the data collected from 1991 Census of 25 districts of North Western Uttar Pradesh" migration as well as characteristics of hills and plains, and identified "female cultivators of hills have a higher percentage of migration from rural to the urban area. They have observed that return migration is very low in the area. People who migrate from a rural area in search of better jobs are usually reluctant to return even after their retirement because they are better apprised about the no availability of the same

opportunities and facilities in rural areas as in urban areas". So, this is indicating the growth of the migration rate of persons from urban to rural areas.

Sahre (1998) depicted in his research "Seasonal Migration of Labour in Maharashtra and the contractLabour system" the low productivity in agricultural production is mostly a result of inadequate irrigation facilities. As a result of this, families below the poverty line and rural labour force do not get any employment in agriculture, and so labourers migrate from their villages to different factories for "contract-based seasonal work."

Shanthi (2006) examined "Female Labour Migration in India: Insights From NSSO Data" where the extent of employment-oriented migration of females in India in the "age group 15-60, irrespective of the reasons for migration reveals that in the post-migration period work" sharing of these migrants' raises sharply in all the states.

Hassan and Khan (2012) attempts "Determinants of Rural Out-Migration in India" which focused that the work or employment (35.88%) is the primary cause of rural out-migrationfollowed by moved with household (26.23%), marriage (23.14%), and so on. The work depicted the high rate of rural out-migration from the central-eastern states and low from India's north-eastern states while rural out-migrants with household have highly recorded from the northern states lower from eastern states of India. The western and north-western parts of India highly recorded the marriage related reason of rural out-migration in India. However,the north-eastern states of India depicting high rural out-migration due to education-related reasons.

Debnath and Nayak (2018) depicted the "pattern and determinants of male out-migration in West Bengal." They have categorized different districts of West Bengal into the different physiographic region. The research focused that rural Bengal generally depending on agricultural activities, and most of the rural peoples are agricultural labours. Lacks of employment in rural areas, most males migrate towards the country's different urban areas, while females are migrating due to marriage-related reasons.

Local Perspectives

In this concern, a study by Chowdhury et al. (2017) "Out-Migration in Search of Livelihood: A study of the Rajbanshi Migrants from Koch Bihar, West Bengal" the Koch Bihar district is dominant by the *Rajbanshi* movement to other states. Their ethnographic study revealed that about 47 percent and 31 percent of the Rajbanshi peoples migrated due to low income and unemployment-related reasons. The study also found that about 92 percent of the surveyed respondents were compelled to migrate out of Koch Bihar. This is also important

because Rajbanshi out-migration's tendency has been started since 1965s onwards and was in its peak since the 1990s in Koch Bihar district.

1.5.3. Consequences of Out-Migration

Global Perspectives

Lipton (1980), in his research entitled "Migration from rural areas of poor countries: The impact on rural productivity and income distribution," it is a common trend and its different impact on rural productivity. He argued that town ward emigration and its effects, in turn, increase "interpersonal and inter-household inequality within and between the villages." The consequence of migration depends on the numbers of involved, duration, return, origins, and destination.

Ajaero and Onokala (2013), in their research "The effects of rural-urban migration on rural communities of southeastern Nigeria," found "the effects of rural-urban migration in the rural places of origin of migrants may be manifest in two ways. First, the rural-urban migrants send remittances to their relatives in the rural areas, and these remittance-receiving households use the remittances for various purposes. Secondly, these rural-urban migrants execute various rural development projects in their rural areas of origin."

National Perspectives

Rele (1969) in his research "Trends and significance of internal migration in India" found that Indian out-migration is dominated by rural-rural, intra-state out-migration where females are dominated as marriage-related migration. Most of the rural out-migration of male's phenomena happens due to shortage of jobs and wage differential character in the country's rural area.

Noronha (1998) in his research "Migrant construction workers in Goa" studied the migrant workers in Goa. This study shows that migrant construction workers have had a "positive and a negative impact on the Goan economy" and concluded that migrant construction workers have come to stay in Goa as long as the locals are averse to doing construction work.

Rani and Shaylendra (2001) in their working paper "Seasonal Migration and Rural-UrbanInterface in Semi-Arid tropics of Gujarat: Study of a Tribal village" studied that seasonal migration is a direct consequence of structural changes, which have taken place both in origin and in the target areas of migration. The seasonal migration has improved the man-land ratio temporarily in the village, and as such, they observed that the migration is

mostly a consequence of both "push and pull factors in rural and urban areas," as observed in their study.

Zachariah et al. (2001) studied "Impact of migration on Kerala's economy and society"which shows that about 1.5 million persons of Kerala are outside of the country. They focused on "More than a million families depend on an internal migrant's earnings for subsistence, children's education, and other economic requirements." In their paper on "Social, economic and demographic consequences of migration on Kerala," they focused on the direct and indirect effects of migration at origin as well as the destination. Indirect impact of out-migration changes in fertility, mortality, and other demographic features.

Srivastava and Sasikumar (2003) in their work "An Overview of Migration in India, Its Impacts and Key Issues" studied the impacts of "internal and internationalmigration, both of which are large-scale withimpacts on economic growth and povertyreduction in many regions of the country." This research also depicted the patterns, trends, and nature of labour migration, reviewsexisting government and non-governmentalpolicies and programmes, and brieflyexamines critical policy issues and options.

Zachariah et al.(2003) in their work "Dynamics of migration in Kerala: dimensions, differentials, and consequences" show the impact of migration on demographic transition (fertility, family planning, infant mortality, child mortality, etc.). They depicted "Status of women, children, and elderly persons in the utilization patterns of remittances as well as their socio-economic impact on households and the community; and impact of migration on labour market conditions."

Korra (2011), in his working paper "Short Duration Migration in India: An Appraisal from Census 2001," discussed short duration migration had played a significant role in permitting rural people to manage the effects of agricultural problems and traumatize rural socio-economic conditions. The study reveals that "short duration migrants are largely concentrated in rural areas and migrated searching for work/employment towards urban and other prosperous rural areas. Short duration migrants are primarily illiterate and less qualified and belong to either the older age group or below 14 years".

Abbi (2012), in her paper "Impact of Internal Migration and Urbanisation on Transformation of Rural Habitat: The Case Study of Navi Mumbai," shows the socio-economic and demographic changes which have taken place in the households of the originals (rural) habitats during the last 40 years due to implementation of various city development schemes launched by the state Govt. in this year.

Kundu (2013), in his article entitled "Impact of rural labour out-migration on Availability of labour-force at source area: an opinion survey in the block of Dumkal in Murshidabad District, West Bengal," and found a different positive and negative impact of out-migration in Murshidabad district.

Das et al. (2020), in their article "Effects of labor out-migration on socio-economic set-up at the place of origin: Evidence from rural India," have shown it harms rural labour sending area and significant impact on education on children, local economy in Malda district of West Bengal.

The literature reviews indicate that all issues relating to out-migration are not discussed under an umbrella. Moreover, any researcher's present study area was unveiled, or governmental initiative was negligible for reducing rural out-migration. The present researcher has exploredsignificant issues relating to the geographical analysis of rural out-migration in Koch Bihar district.

1.6. Statement of the Research Problem:

Rural out-migration is the bone of the livelihood strategy in the country. People's movement from rural (origin) areas to other areas (destination) has been considered one of the problems for achieving its development efforts. The lack of poor rural infrastructure, lack of industry, poverty, lower-income, and under-employment produce the out-migrant from rural areas to the other areas for achieving jobs and livelihood strategies. So, it is identified as a 'survival strategy' for rural peoples.Out-migration is considered an essentialeconomic development factor, which has acquired a special significance in commercialization in agriculture in rural India. In the agricultural sector, larger households become richer while small landholding households are too risky and left behind the origin. Both the rich and poor are almost equally migrated to the other regions in the country.Koch Bihar is a Border Adjacent District (BAD) in Indo-Bangladesh border having different regional features, patterns, determinants, and effects out-migrants have their importance. However, there is a lack of studies on nature, characteristics, determinants, consequences, and implantation on rural out-migration in Koch Bihar district.

1.7. Scope of the Study:

Koch Bihar district is an agrarian district in West Bengal where approximately 70% people are depended on agriculture. In the district, the majority people belong to scheduled caste and minority communities; there is no notable industry in the district. Income from the agricultural sector is very low and even erratic both for farmers and agricultural labourers. As a consequence, in search of secured job opportunities and better livelihood people from

the rural areas have migrated from their birth place. On the other hand, the shortage of agricultural labourers during the peak agricultural season also affects the district's economy. The out-migration is undergoing the radical change in demographic patterns as streams in the district. The majority of this movement is from rural to urban areas. In the present economic crisis, when we are facing unavailability of resources, the problem of migration is likely to become acute.The out migration in the district is mostly influenced by social structures and patterns of the development. The uneven development of inter-district and Intra-district areas is the main cause of out-migration.In these disparities, most of the migrants are landless poor and who mostly belongs from Scheduled caste and minority communities constitute the major portions of the migrants in rural Koch Bihar district. Under the present circumstances, there is an urgent need to study about the issues related to rural out-migration in the district.

1.8. Objectives:

The study of out-migration from rural areas of Koch Bihar district is based on the following objectives-

1. To highlight the overall scenario of rural out-migration in Koch Bihar district.
2. To identify the major causes of rural out-migration of the district and socio-economic background of out-migrant of the district.
3. To make a comparative assessment of migrant and non-migrant households.
4. To identify the nature, trends, and patterns of rural out-migration in the district.
5. To assess the consequences of rural out-migration in Koch Bihar district.
6. To assess the role of government developmental programme with particular reference to MGNREGS on out-migration.

1.9. Hypothesis:

The following hypotheses have been proposed to carry out the study;

1. Rural out-migration in the district is age and gender-selective.
2. There is a sign of seasonality in migration streams from rural areas to urban areas.
3. The rural out-migration changes the socio-economic and demographic condition of the district.

1.10. Data and Methodology:

The study has been mainly confined to the out-migration from rural areas of the sample villages in Koch Bihar district. The overall work has been developed based on the general framework and in-depth study of various issues related to out-migration in the country with both primary and secondary data. In terms of the present objectives of the study, the

following methods have been adopted to investigate the problem. The district comprises an approximate 3387 sq. km geographical area in West Bengal. It has 12 CD blocks, 128-gram panchayats, with 1132 inhabited villages sharing only 3.82% of the state's landmass. From the perspectives of the sample study, these villages are the smallest unit of the study. The household unit has been considered from 64 selected sample villages in the district to collect the primary data.

1.10.1. Data Type and Source: The study has been conducted on both the primary and secondary data. The collection and organization of the data is as follows;

Primary data collection

Questionnaires have been considered as a useful tool for the collection of primary data from the field. A researcher often frames the questionnaire based on fixed alternative questions or closed or open-ended questions to find the answers. The questionnaire enables to collect more information from large respondents with a limited period. Besides, it can minimize the interviewer's bias and allow the use of a large sample size to result in more dependable and reliable results (Kothari, 2004; Ahuja, 2014).

With the schedules, which have a set of questions, the researcher goes to respondents, ask them questions that are listed and record the replies in the space meant for the same in the designated format. In a certain situation, the enumerator may help the respondents recording their information to different queries. Here the investigators may discuss the objectives of the "investigation and also remove the difficulties" of the respondent. This method is very suitable and "extensive inquiries and can lead fairly results" (Kothari, 2004).

A sample survey of 398 households from 64 sample villages was conducted with a questionnaire and schedule **(Appendix-I).**Based on the following information;

a) Essential information like name, age, sex, marital status, and so on.
b) Literacy status;
c) Occupational details (present, past);
d) The economic condition of the family;
e) Income and expenditure related questions;
f) Migration details like history, trend, pattern, duration, destination, types, causes, consequences, etc.

Secondary data Collection

a) The district map has been collected from the Census of India.

b) The information related to land use collected from the Survey of India topographical sheets and USGS satellite imageries of the different years were used for this purpose. Besides, for the spatial analysis, the GIS platform has been used for the study.

c) History of migration in the district, data has been collected from the 1951 Census to the 2011 Census.

d) In addition to these, migration data have also been collected from NSSOs (64th round; 2007-08).

Sample Design:

Forthe empirical and spatial nature of migration, specific sampling methods have been used to select sample villages and sample households in the district.

a) Selection of the sample villages: There is a 12 Community Development block (CD block) in Koch Bihar district. After selecting all the blocks, the villages are identified for field surveys based on their household number. At least 5% of sample villages have randomly been selected from each block in the district. Thus, a total of 64 sample villages have been covered under this study. The villages' selection is also made based on villages' location from the Block Development Office, viz., within 4 km., 4-8 km, and above 8 km **(Appendix-II.A)**.

b) Selection of Sample Size: For determining the sample size from the target population, different strategies have been considered for this study. In this case, the researcher has been used as a simple random sampling technique. It is the most common and simple sampling method where every unit of "population has an equal chance" of being drawn in the sample.

For selecting households of the sample, villages were conducted randomly based on the households' migration status. In this regard, the sampling households may be stratified into migrant and non-migrant households. For this purpose, the households have at least one migrant by the survey, ranging from 3 to 6 months or more than selected for research. The data were collected from both the migrant and non-migrant households/beneficiaries of the sample villages with pre-tested questionnaires and schedules and the case study method.

The sample size is determined by the formula devised by Cochran in 1975 from the large populations. At 95% confidence level and the estimated proportion of an attribute present in the population, p=0.5 (50%), q=1-.5=0.5, the size of the sample household should be.

$$n_0 = \frac{Z^2 pq}{e^2}$$

n_0 is the sample size, Z value found in the Z table (1.96), and e is the precision level (0.05). Let this formula select the number of households for the study of rural out-migration in Koch Bihar district from the selected sample villages. The researcher gets the sample size as 385.

Cochran formula for finite population correction for proportion for the final selection of the sample for rural out-migration as follows;

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

Where, n is the reduced sample size, n_0 is the initial sample size calculated as per target population criteria, and N is the population size, and we get the sample size (n) 383. In this case study, the researcher has selected the sample size (n) 398**(Appendix-II.B)**.

1.10.2. Methodology:

The study was carried out with the district's out-migrated and non-migrated households to fulfill the above objectives. In this study, the information collected through experiment or inquiry may represent tables, graphs, charts, etc. The cartographic and statistical analyses of data are used to validate the study. The maps can be shown in different ways, such as colour or shades, by dots, by placing pictograms in the geographical unit, and various techniques of cartograms have exhaustively been used to research rural out-migration from Koch Bihar district to get quick result for further analysis.

The various quantitative techniques have been used for different aspects of out-migration analysis, such as migration rate, migration stream, migration pattern, migration determinants, migration consequences, etc. Some important quantitative methods as follows;

The rate of out-migration is beneficial to measure the intensity of out-migration of a population. The out-migration rate is "the ratio of the total volume of migration during a specific period and the total population" (Wunch and Temote, 1978; Narayan and Singh, 2015). The formula for identifying the rate of out-migration (OMR) is –

$$\text{OMR} = \frac{Mi}{pi} * k$$

Where, OMR=Out migration rate, Mi=Total number of migrants during a given year or a period, pi= Midyear population; K= denotes a constant (100/1000).

Migration streams: The movement of people from an area of origin (place of birth) i to the area of destination j during a given interval of time denotes migration stream from i to j (Ramakumar and Gopal, 1986). Then the migration stream denotes;

$$\frac{Mij}{Pi} * k$$

Where, P_i is the population (out-migrant) at the area of origin or place of birth, M_{ij} is the out-migrated persons from area i (area of origin) to j (destination). K is the constant (100/1000).

The index of the satisfaction(developed by Hall, Yeh, and Tan, 1975) of villages, the index of satisfaction has been applied as follows;

$$IS = \frac{(fs - fd)}{N}$$

Where, IS= Satisfaction Index, fs=No. of satisfied respondents, fd= No. of dissatisfied respondents, and N=Total respondents. This Index of Satisfaction values indicates the strength and lacuna of different opportunities in the district. The value of this remains +1 and -1. The greater value or positive values indicate the greater degree of satisfaction.

Chi-Square Test: The X^2 (Chi-square test) by Karl Pearson (1900) was used to measure the effect of out-migration on rural areas. It is an elementary and most widely used non-parametric test also. The Chi-square test is used in various situations to solve varied problems, e.g., such as testing hypotheses for determining the reliability and association, independence, etc. (Alvi, 1995; Sarkar, 2013). This test is very similar to the standard deviation. This method is used to test between observed (O) and estimated (E) frequencies. The following formula generates it;

$$x^2 = \sum \frac{(o - e)^2}{e}$$

Lorenz Curve: The Lorenz curve is widely used as a graphical representation of studying inequality. This curve was devised by Max O. Lorenz (1905). In this study, the curve is used for showing the monthly income and expenditure inequality between both migrant and non-migrant respondents. The degree of inequality of any distribution is directly proportional to the degree of concavity of the curve. Hence, in this graph,the more concavity, the more inequality (Sarkar, 2013; Gupta, 2008).

The Gini's Co-efficient (G) is a mathematical measurement of inequality of a distribution (Gini, 1972). This is defined as $0 \leq G \leq 1$. Therefore, G=0 corresponds to perfect equality and G=1 corresponds to perfect inequality. G can be calculated from the following formula;

$$G = 1 - \frac{\Sigma(xi. y_{i+1}) - \Sigma(xi^{+1}. yi)}{1000}$$

Logistic Regression: To identifying the most potent determinants of out-migration, the "logistic regression model" with mostly "a likely variable was fitted and estimated using the maximum likelihood method" (Kumar, 2004; Rogerson, 2001). This method denotes the

probability of rural out-migration. Here, P is the function of index variables Z, So, the set of variables is X1, X2…and so on. Z is equal to the logarithm of the odds ratio (OR), i.e., of the "probability of migration to the probability of non-migration" (Narayan and Singh, 2015). The dependent variable recorded in dichotomous (0 & 1), '0' means not migrant and '1' means migrant. The reference categories were chosen the first level of each independent variable, and a significance level of Wald statistics values have been tested in 3 levels of α like 0.1, 0, 05, and 0.01.

The equation of logistic regression is the following:

$$\text{Logit (Y)} = 1n\left(\frac{p}{1-p}\right) = \propto + \beta 1x1 + \beta 2x2 + \in$$

Where p is the probability of the event and α is intercepted, βs are regression coefficients, and xi is set.

Multiple Linear Regressions:

A "multiple linear regression model" was used to determine employment and income factorsfor the beneficiaries who worked under MGNREGS. Two empirical models have been used for the assessment of MGNREGS on rural out-migration.

$$Y_{a\&b} = a + b_1 X_1 + b_2 X_2 \ldots\ldots b_7 X_7 \text{ (1 \& 2)}$$

Where,

$Y_{a\&b}$ = Number of days and income of the beneficiaries worked under MGNREGS,

a = Intercept, a parameter scale.

1.11. Limitations of the Study:

Though apparently, the said study seems very easy because the study respondents would answer correctly with accuracy, and subsequently, the study would be carried out. However, speculation arises about the awareness of the respondent. There may be many absent people during data collection, and whose duration of residence is unknown. In this regard, some inconveniences may be arisen to carry out the work. On the other hand, the term 'place of birth' is understood and answered correctly by the respondent. However, the respondent may not be aware of the exact place of birth. A person living at a specific place may report it as his/her place for quite a long time.

1.12. Conclusion:

The above study clears definitions, terminologies, classification of migration. The chapter mainly deals with the research problem statement, review of the literature, objectives, hypothesis, data source, Methodology, and limitations of the study in Koch Bihar district.

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CHAPTER-2

GEOGRAPHICAL BACKGROUND OF KOCH BIHAR DISTRICT

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2.1. Introduction:

Koch Bihar has been transformed from an earlier kingdom to a state and from astate to the present status of a district. Unstill 28th August 1949 Koch Bihar was a Regal State administered by Maharaja of Koch Bihar who had been a contributory ruler under the British Government. By a report dated 28th August 1949, Maharaja Jagaddipendra Narayan of Koch Bihar surrendered his region to the area of Administration of India. The exchange of the organization to the Legislature of India occurred on the twelfth September 1949, from which date Koch Bihar was administered as a central Magistrate's territory by a Main Official arrangement by the Administration of India. At last Koch Bihar was moved and gotten together with the region of West Bengal on nineteenth January 1950. From that point forward Koch Bihar is being controlled as an area of West Bengal.

The name "Koch-Bihar" is gotten from the name of the Koch 'Rajbanshi' clan that is native to this district. The word "Bihar", the Sanskrit word (to travel) which means the land through which the *"Koch Rajbanshi"* Kings used to travel which means *'Nagar'* or *'Par'* (Comprehensive District Agriculture Plan Under Rashtriya Krishi Vikas Yojana, Koch Bihar District, West Bengal).

2.2. Location of the Study Area:

Koch Bihar district is located in the north-eastern frontier of India which is located under the Jalpaiguri division in West Bengal. The district is bounded by the district of Jalpaiguri and Alipurduar in the north, the state of Assam in the east by Bangladesh in the west as well as in the south. The latitudinal and longitudinal extension of the study area approximately is $25^0 57' 47'' N$ to $26^0 36' 20'' N$ and $88^0 47' 44'' E$ to $89^0 54' 35'' E$ respectively. The geographical area is 3387 sq. km which occupies 12 CD blocks, 128-gram panchayats with 1132 inhabited villages sharing only 3.82 percent landmass of West Bengal (Map 2.1).
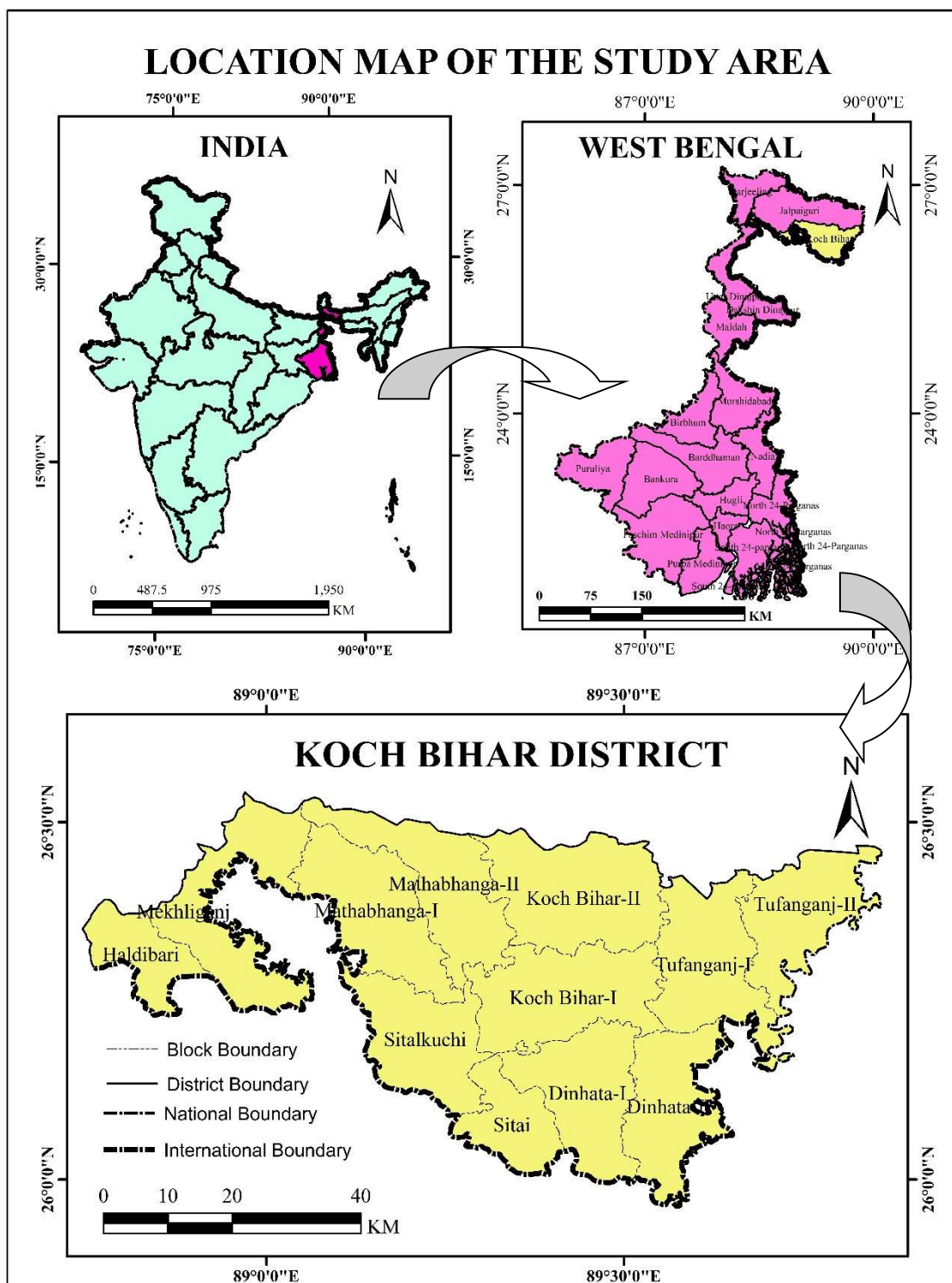
Map 2.1: Location Map of the Study Area

2.3. Administrative Units:

Koch Bihar district comprises five subdivisions namely Koch Bihar Sadar, Dinhata, Mathabhanga, Mekhliganj and Tufanganj. Excepting the municipality area, everysubdivision

consists of CD blocks (Community development blocks) which in turn are split intorural areas and census towns. The district is comprised with 10 urban units consisting with 6 municipalities (Statutory towns) and4 CTs (census towns). The census also reveals that the Koch Bihar, Kharimala Khagrabari and Guriahati are sectors of an urban agglomeration.

Table 2.1: Administrative Set-up of Koch Bihar District

Sub-Division	CDBlock /M.	Panchayat			Inhabited Villages (2011)
		Samity	Gram	Gram Sansad	
Mekhliganj	2/2	2	14	158	194
	Mekhliganj	1	8	95	137
	Mekhliganj(M)	-	-	-	-
	Haldibari	1	6	63	57
	Haldibari(M)	-	-	-	-
Mathabhanga	3/1	3	28	409	260
	Mathabhanga-I	1	10	137	101
	Mathabhanga(M)	-	-	-	-
	Mathabhanga-II	1	10	135	92
	Sital Kuchi	1	8	137	67
Koch Bihar Sadar	2/1	2	28	428	253
	Koch Bihar-I	1	15	208	142
	Koch Bihar (M)	-	-	-	-
	Koch Bihar -II	1	13	220	111
Tufanganj	2/1	2	25	285	125
	Tufanganj -I	1	14	161	72
	Tufanganj(M)	-	-	-	-
	Tufanganj -II	1	11	124	53
Dinhata	3/1	3	33	434	300
	Dinhata -I	1	16	204	128
	Dinhata (M)	-	-	-	-
	Dinhata-II	1	12	159	119
	Sitai	1	5	71	53
District Total - 5	12/6	12	128	1714	1132

Source: i) Census of India, 2001 & 2011
        ii) Official website of Koch Bihar district: http://www.coochbehar.nic.in/

2.4. A Brief History of Population Growth in Koch Bihar District:

The history of conduct of Census in district Koch Bihar is strikingly archaic. King Viswa Singha, who ruled Koch Bihar from 1522 to 1555 CE, conducted first Population Census in the Kingdom. However, his interest was mainly of the able bodied male population who are capable of joining the Royal forces during the War (Ghoshal, 1942). The first Census of Koch Bihar in the modern era was conducted between November, 1871 to February, 1872 showing a population figure of 5, 32,565. The average density of population in the district

was 407 persons per square miles. Although the concept of villages in feudatory state of Koch Bihar differed from that of the villages in other areas of Bengal, there were 1199 number of habitations in the state (District Census Handbook, Koch Bihar, 2011).

During the succeeding Census in 1881, population rose by 13.2% and was recorded at 6, 02,624. However, due to some natural calamities like earthquakes and floods, population of feudatory state of Koch Bihar reduced during next two decades. With the exception of such few cases, population of Koch Bihar district rose has recorded a modest rise and during the first Census of independent India, it was recorded at 6, 71,158. In all decades Koch Bihar Sadar Sub-Division has remained highest populated, both in terms of density and absolute figures. Another important feature of the population of district Koch Bihar is that being ruled by feudatory rulers under British regime, the state has attracted considerable number of immigrants from other places, including the neighbouring districts. Immediately after independence along with partition, this immigration rose to 1, 45,916 out of a total population of 6, 71,158 which is almost 21.75%.Migration has been a key element of social evolution (Bacci, 2018). Scheduled Caste population is the district is dominant social groups in West Bengal (50.17% as per 2011 Census of India). Ethnicity wise the most dominant population group in Koch Bihar district are the *Rajbanshis.*As noted in The Koch Bihar State and its Land Revenue Settlements by Babu Harendra Narayan Chaudhuri the term `*Rajbanshi* ' can be regarded as an addition of honour, meaning `related to the Royal family'. Another theory of origin of the caste is that during invasion of Aryans in the east, the caste might have created from intermixing of Aryans, Assamese and the Bengalis of the region (Hunter, 1876; Census of India, 2011).

2.5. Geographical Background:

The geographical, demographical, socio-economic, environmental condition, etc. may be divided into two categories, such as i) Physical aspects like relief, Physiography, drainage, soil, vegetation, etc. ii) Socio-economic aspects like demography, agriculture, health, industry, etc. In this regard, this study is to analyze the physical as well as socio-economic factors that compelled people of Koch Bihar district.

2.6.1. Physical Aspects

The district belongs to the sub-Himalayan foothill region whereas the maximum altitude is 75 meter and minimum altitude is 28 meter. The average height of Koch Bihar district is 60 M from MSL. Koch Bihar is generally flat topography where the general slope is North West to the south-east. Mekhliganj, Haldibari have the maximum altitude where the

minimum altitude is found in Dinhata, Sitalkhuchi, and sitai. Koch Bihar district is a part of the plain region which is formed by the intersection of sub-Himalayan Rivers. The type of the soil is generally friable loam. The depth of the soil is ranging 0.15 to 1 meter, and it superimposed by sand. The river beds are changing every year. The characteristics of sub-Himalayan Rivers are that, rivers tend to cut down the new channel annually when excessive rainfall or flood occurs. It resulted in the new formation of various marshes over the plains which are scattered. According to Oil and Natural Gas Commission, conducted by seismic surveys of the government of India, igneous and metamorphic rocks are found at the depth between 1000 to 1500 meters, and the slope of the basement surface is northerly. The Koch Bihar district originated of fluvial-catastrophic deposit in the quaternary geological period (Mazumdar, 1977). The Koch Bihar district has a network of rivers and small streams. The rivers are flowing north-east to south-west direction following the relief slope in Koch Bihar district. Most of the rivers entire the district from western part (Duars) and after passing through the district, the rivers are entire Rangpur district to join the Brahmaputra in Bangladesh. The beaches are found only one side of the river. The beds of the rivers are formed by the boulders, pebbles, rocks, gravel sand and silt. During the monsoon period, the rivers become very turbulent. A little amount of rainfall in the hilly region generated a sudden rise of water level in the streams. The crops are destroyed by the flood, occurred in the streams. The changes of the river course are the common features of sub-Himalayan Rivers, mostly during the monsoon season by losing the sandy soil.

In Koch Bihar district have a number river and rivulets. The principal river of the district is Tista, Torsa, Jaldhaka, Dharla, Mansai, Kaljani, Raidak, Gadadhar and Sankosh. Except these, there are several small rivers are Sutunga, Khutamara, and Giridhari, etc. In the district, the rivers are classified into two categories, like perennial and non-perennial. The big rivers are perennial in nature such as Tista, Torsa, etc. The pattern of the rivers in Koch Bihar district is parallel. In other words, there has a parallel drainage pattern. The principal rivers are flowing parallel to each other. Climate is one of the important physical factors affecting rural out-migration or movements of people from one place to another. It has different elements like temperature, sunlight, frost, fog, moisture, snow etc. All these elements have direct and indirect impacts on cropping pattern of a region (Debnath, 2003). There is a notable extremity in temperatureand rainfall in Koch Bihar district. The climate of the district as a whole is characterized by tropical monsoon. There is only one Meteorological Station in the district which is located at Koch Bihar town (Roy, 2009). In the district during the south-west monsoon, 70 percent of annual rainfall is received. The

temperature is moderate throughout the year in the district. The maximum mean minimum temperature was observed in July whereas the mean maximum temperature was highest in August (36° C). It was also observed that the mean maximum temperature was consistently high during the summer season (Miraj, 2018). In the Koch Bihar district, the alluvial soil is found everywhere in which is formed by many river systems. This type of alluvial is the recent formation. Sandy loam is the major type of soil in the Koch Bihar district. It found in the depth between 0.15 to 1 meter and it superimposed by sandy soil. The district is situated near the foothills of Eastern Himalaya from where after rains in the catchments area of each of the rivers generally attain strong current and flood the adjacent area (Roy, 2009).

Land Use /land cover*:*

The land is the major component of nature which changes with time. Land use/ land cover change means the alteration of land from one use to another and it is mainly controlled by the society's demand and human activities. The change in land/and land cover is caused by various natural and manmade factors. For the study of land use /land cover a proper understanding and intensive monitoring of such factors is needed (Rahman et al. 2011).

Table 2.2: Description of Land Use/Land Cover Classes

Sl No.	Land Class	Description
1.	Vegetation	This is the area with green trees, plant cover, and grassland, dense and sparse vegetation growing in the area.
2.	Water body	This class defines the presence of water either in the form river or any man-made water reservoir.
3.	Agricultural land	This class describes the land of crop cultivation. It is the net shown area of the district.
4.	Built-up area	This class indicates the settlement in rural and urban areas, industrial area, transportation sector and bare land (land left without vegetation cover).
5.	Sand deposition	This class is the deposition of sand along the river.

To examine this change LANDSAT 7 ETM+ and LANDSAT 8 OLI data has been used for 2000 and 2019. Supervised classification using maximum likelihood classifier has been applied for preparing land use/ land cover map and to detect the change on Arc GIS 10.1.

Kappa Coefficient has also done to assess the accuracy of the result. The study finds major alteration of agricultural land into the built-up area. There is also a significant reduction in vegetation cover in Koch Bihar district during the period. Urban expansion and population growth lead to a drastic change in land use/land cover.

Table 2.3 shows the pattern of land use/ land cover for both the year and the changes is noticeable. Among the major 5 classes, agricultural land covers highest share in 2000 (78.23%) followed by vegetation (8.73%), built-up area (7.91%), water body (2.49%) and sand deposition (2.23%).

It also reveals substantial changes in all the classes. Agricultural land has witnessed a decrease and built-up area has increased over the period. Agricultural land declined from 78.23 percent in 2000 to 72.35 percent in 2019, the declined has converted most of the land into the built-up area. As a result, the built-up area has increased from 7.91 percent in 2000 to 13.85 percent in 2019. Rapid population growth is a major cause of such change as people are converting cropland into a settlement. Vegetation cover is also showing a declining trend from 8.73 percent in 2000 to 6.94 percent in 2019, which is also due to increase in population and urbanisation process, creation of road, service sector. The area under water body also declined from 2.49 percent to 2.04 percent due to an increase in urbanisation, the natural earth surface is covered by the settlement, conversion of agricultural land etc. But sand deposition has increased from 2.64 percent to 4.82 percent in 2019. However, the transformation is mainly concentrating on converting the agricultural land into the built-up area.

Table 2.3: Land Use /Land Cover of Koch Bihar District, 2000-2019

LULC Class	LULC 2000		LULC 2019		Change
	Area	%	Area	%	
Vegetation	295.66	8.73	235.09	6.94	-1.79
Water body	84.29	2.49	69.08	2.04	-0.45
Built-up area	267.83	7.91	469.12	13.85	5.94
Agricultural land	2649.89	78.23	2451.03	72.35	-5.88
Sand deposition	89.84	2.64	163.19	4.82	2.18
Total	3387.51	100	3387.51	100	

Source: LANDSAT 7 ETM+ & LANSAT 8 OLI data (2000 & 2019)

Figure 2.1: Land Use & Land Cover in Koch Bihar District, 2000
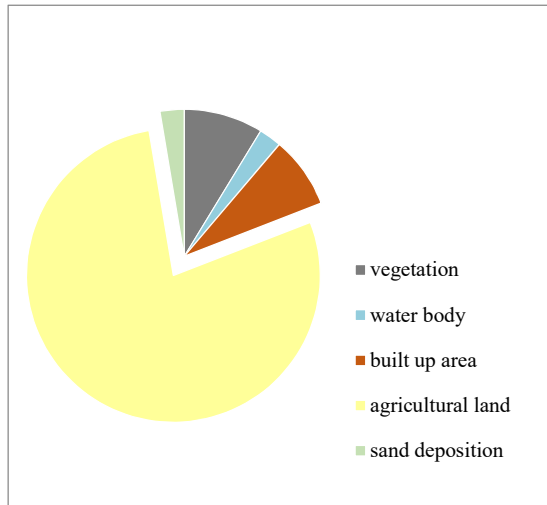
Figure 2.2: Land Use & Land Cover in Koch Bihar District, 2019
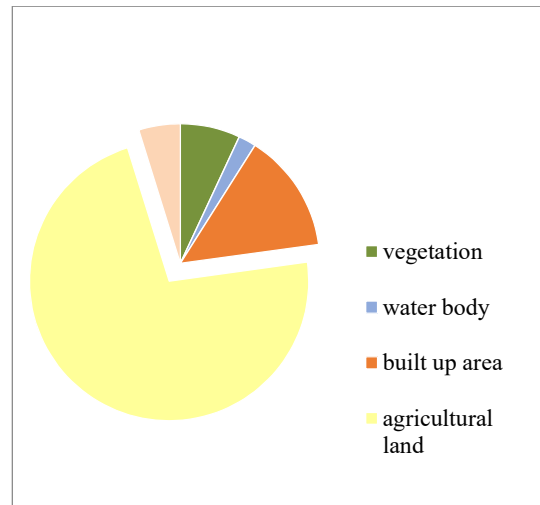
Land-use change in Koch Bihar district is largely contributed to the location of main district town which shows a remarkable increase in built-up area and a decrease in vegetation and cropland (figure 2.1 & 2.2). The increase in the population of the district and transformation of the rural economy to the modern economy has played a crucial role in changing existing land use pattern. In this district fertile agricultural land and vegetation cover has declined at the cost of increasing number of settlement, road network and service sector. In 2001 district population was 24.79 lakhs which became 28.19 lakhs in 2011 according to census data. The number of Census Town has also increased from 4 in 2001 to 12 in 2011. Increasing population pressure, industrialisation, creation of transport and service sector during this period has changed the land use pattern. This dynamic land resource utilisation, an unplanned transformation of land may cause deterioration of the environment like water, air, noise pollution. It is clear from the maps that within this period rapid urbanisation, increase in population took place which causes alteration of agricultural land into the built-up area.

The total area of the district has not been changed but it shows a major change in land use pattern in all the land-use class. The transformation shows that area achieved by agricultural land is 468.10 sq km in which 186.91 sq km is gained from vegetation, 218.62 sq km from built-up area, and 33.69 sq km from sand deposition and 28.88 sq km from water bodies. It is mainly due to the cutting of trees and converting the forest area into agricultural land to meet the need of food. It is also remarkable that 154.70 sq km of agricultural land has been converted into a built-up area. However, 40.42 sq km built-up

area, 36.32 sq km sand deposition area, 92.71 sq km vegetation, 15.31 sq km water body shows no significant changes during the period (table 2.4).
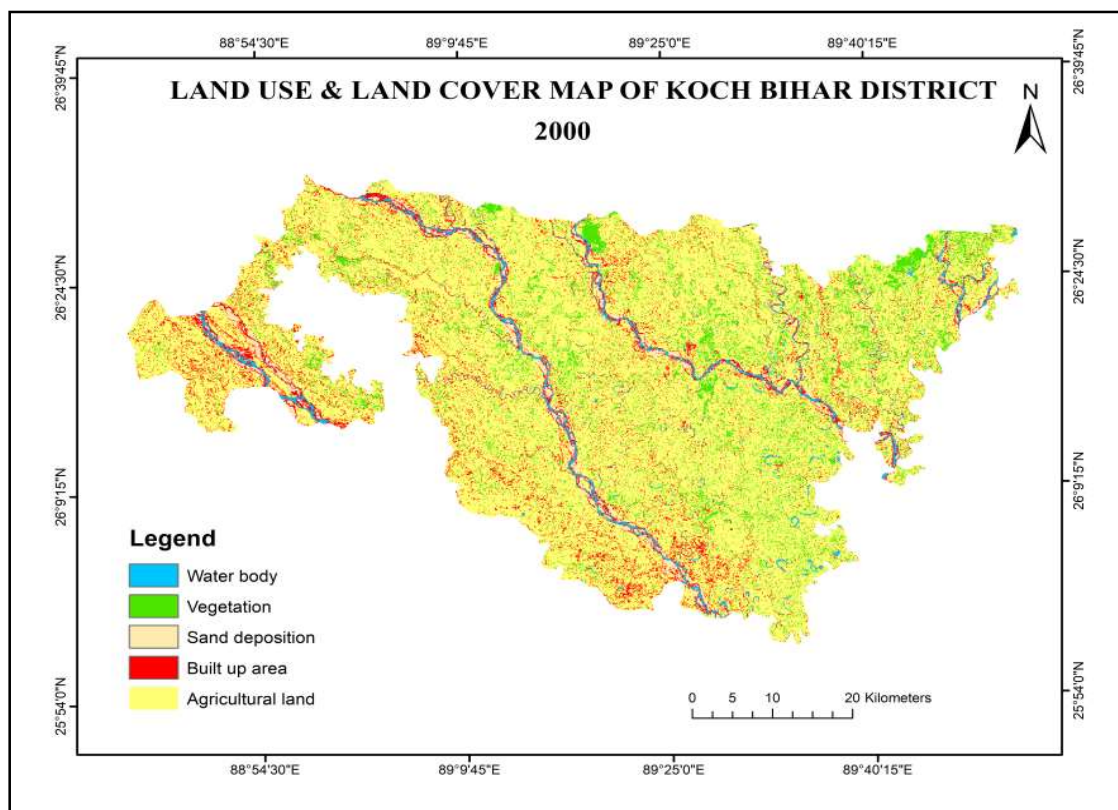
Map 2. 2: Land Use and Land Cover Map of Koch Bihar District in 2000

Table 2.4: Land Use/Land Cover Change (2000-2019)

Land use/land cover		Agricultural land	Built-up area	Sand deposition	Vegetation	Water body
LULC 2000	Agricultural land	**2062.77**	154.70	44.28	122.21	15.67
	Built up	218.62	**40.42**	37.37	7.86	13.50
	Sand deposition	33.69	8.22	**36.32**	1.18	10.07
	Vegetation	186.91	79.31	2.16	**92.71**	1.72
	Water body	28.88	16.43	21.11	2.40	**15.31**

Source: LANDSAT 7 ETM+ & LANSAT 8 OLI data (2000 & 2019)
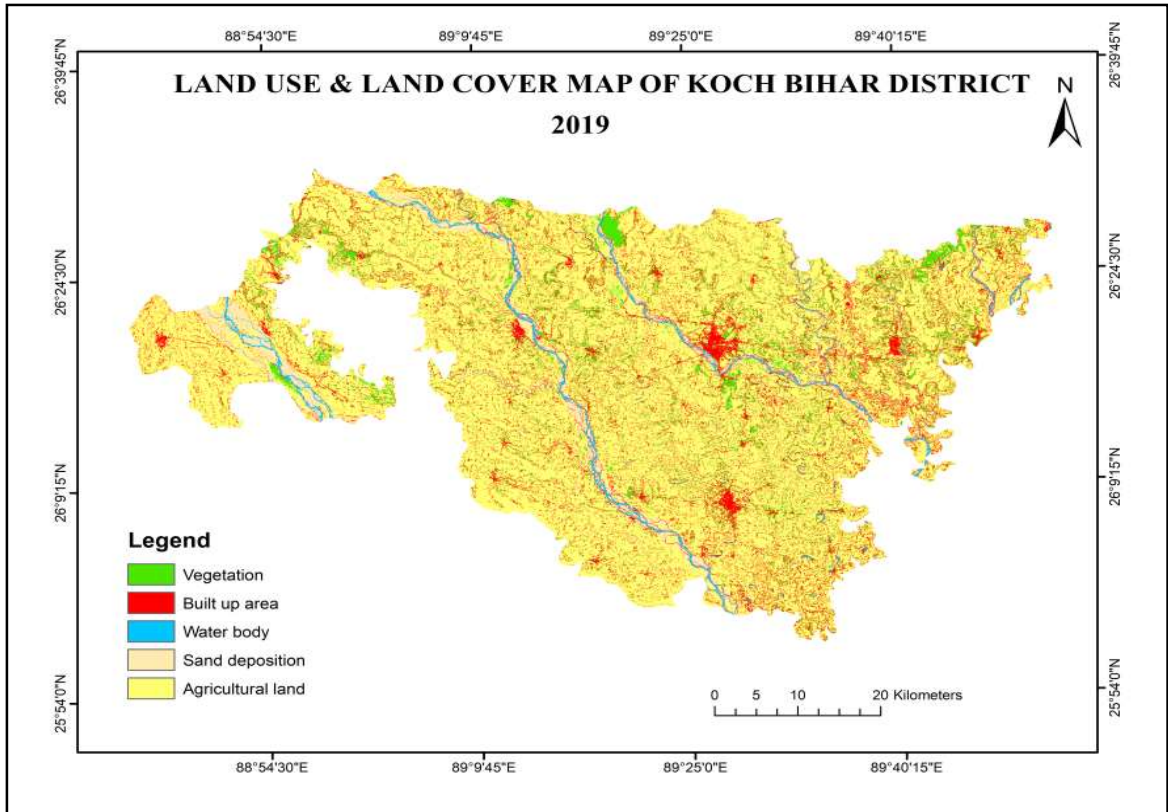
Map 2. 3: Land Use and Land Cover Map of Koch Bihar District in 2019

Figure 2.3: Change in Land Use/ Land Cover (2000-2019) in Koch Bihar District
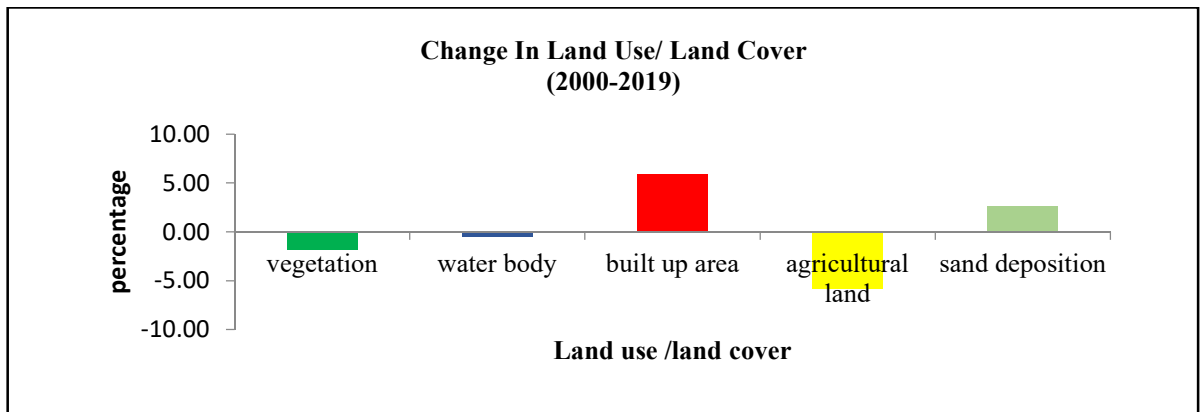
Accuracy assessment is very important to know the reliability of image classification. For this purpose overall accuracy, producer accuracy and Kappa Coefficient has been incorporated with 50 sample points (Prakash and Gupta, 1998; Deng et al. 2008) based on these 50 samples overall accuracy is 84 % i.e., good accuracy and Kappa Coefficient is 0.80 that means there is 80% of good accuracy than by chance alone (Table 2.5).

Table 2.5: Error Matrix and Accuracy Assessment for 2019 Classified Map

Error matrix and Accuracy Assessment	Vegetation	Water body	Built-up area	Agricultural land	Sand deposition	Total	User's Accuracy
Vegetation	8	0	1	1	0	10	80
Waterbody	0	10	0	0	0	10	100
Built-up area	0	0	9	1	0	10	90
Agricultural land	1	0	2	7	0	10	70
Sand deposition	0		2	0	8	10	80
Total	9	10	14	9	8	50	
Producer's Accuracy	88.89	100	64.29	77.78	100		

Overall Accuracy=84.00 %, Kappa Statistics=0.80

2.5.2. Demography of Koch Bihar District

2.5.2.1. Population and Growth

The Population is a dynamic concept. It changes over time. In developing countries population changes is the most central point. Koch Bihar district in West Bengal lies in the international bounder (Bangladesh). That's why the population increases very much the 1970s; many people moved out from Bangladesh to Koch Bihar district. In 1901 the total population of Koch Bihar district was only 565116. The size of the population was more or less constant up to 1951. Within 50 years, the population only increased more or less 1 lakh. After 1951 the population increased very rapidly because of immigration from Bangladesh. The following table depicted that in the pre-independence period, the population growth of Koch Bihar district was negative because of different factors like epidemics, disasters etc. But, after 1947, the partition of India, the district having an unprecedented rate of population growth was recorded due to huge immigrants from East Pakistan (now Bangladesh) (Miraj, 2018). The debate had raised for illegal immigrants or 'refugees' but this cross border migration it refused that they are not refugees (Rahman and Schendel, 2003). Although from 1991 onwards growth rate has started declining.

Figure 2.4: Population Growth in Koch Bihar District from 1901 to 2011
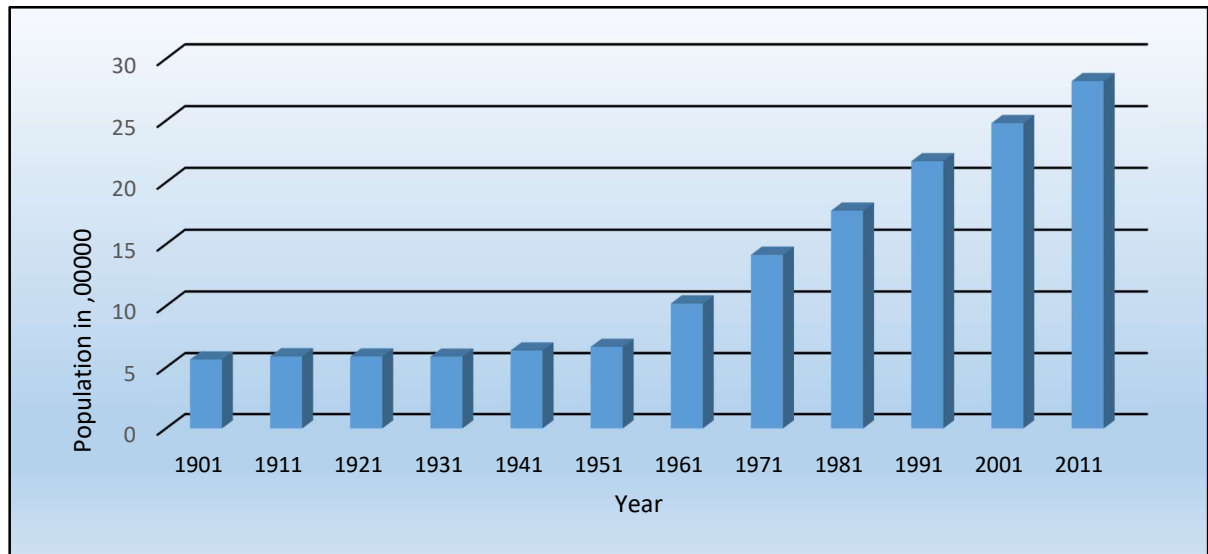
Source: Census of India, 2011

In 1951, the population was 668949, which increased 1961 into 1019806. From this time the population increases exponentially (Figure 2.4 and **Appendix-II.C**). In 2001 census, Koch Bihar's population was about 25 lakhs, where the male population is 51percent, and the female population was 49percent. But in the 2011 census, Koch Bihar's population was about 28 lakhs, where the male population is 59percent and the female population was 41percent. The population growth means differences of birth and death, which is also called as Natural Increase. The year 1921 known as the demographic dividend of India because of negative growth rate, but in the Koch Bihar district, the negative growth rate occurred in 1921 and 1931. This two-decade has negative population growth (-0.07 and -0.26 respectively). The decadal growth rate of the Koch Bihar district was low up to 1951 when the decadal growth rate was only 4.74. But in 1941 the growth rate was likely higher at 8.43. The year 1951 was the demographic dividend in the history of the Koch Bihar district, because of the growth rate was only 4.74 in 1941 and 52.45 in 1951. Only one decade, the net decadal growth rate was 48. From 1951 the population growth decreases rapidly. The decadal growth rate is 13.71 in 2011, where it was 14.19 in 2001 (table 2.6).

Table 2.6: Decadal Growth Rate of Population in India, West Bengal, and Koch Bihar District.

Year	India		West Bengal		Koch Bihar District	
	Total Population	Decadal Growth Rate	Total Population	Decadal Growth Rate	Total Population	Decadal Growth Rate
1901	2383,96,327	---	169,40,088	---	5,65,116	---
1911	2520,93,390	+5.75	1,79,98,769	+6.25	5,91,012	4.58
1921	2513,21,213	- 0.31	1,74,74,348	-2.91	5,90,599	-0.07
1931	2789,77,238	+11.00	1,88,97,036	+8.14	5,89,053	-0.26
1941	3186,60,580	+14.22	2,32,29,552	+22.93	6,38,703	8.43
1951	3610,88,090	+13.31	2,62,99,980	+13.22	6,68,949	4.74
1961	4392,34,771	+21.51	3,49,26,279	+32.80	10,19,806	52.45
1971	5481,59,652	+24.80	4,43,12,011	+26.87	14,14,183	38.67
1981	6833,29,097	+24.66	5,45,80,647	+23.17	17,71,643	25.28
1991	8464,21,039	+23.87	6,80,77,965	+24.73	21,71,145	22.55
2001	102,87,37,436	+21.54	8,01,76,197	+17.77	2479155	14.19
2011	1,21,08,54,977	+17.70	9,12,76,115	+13.84	2819086	13.71

Source: Census of India, 2001 & 2011

2.5.2.2. Population Density

The size of the population and population density has a linear relationship if the area is constant. With the increasing the population, the population density also increases. Out of five North Bengal districts, Koch Bihar district has a significant population density. According to the 2011 census of India, the population density of Koch Bihar district is 832 persons/sq km. In this district, 430 persons averagely founded per square kilometre in 1901. In 1961 census of India, Koch Bihar district has 776 persons per square kilometre against the state population density 1021 (table 2.7 and map 2.7).

Table 2.7: Trend of Population Density of Koch Bihar District.

Year	1901	1911	1921	1931	1941	1951	1961	1971	1981	1991	2001	2011
Density (persons/sq. km)	167	174	174	174	189	198	301	418	523	641	732	832

Source: Census of India, 2001 & 2011
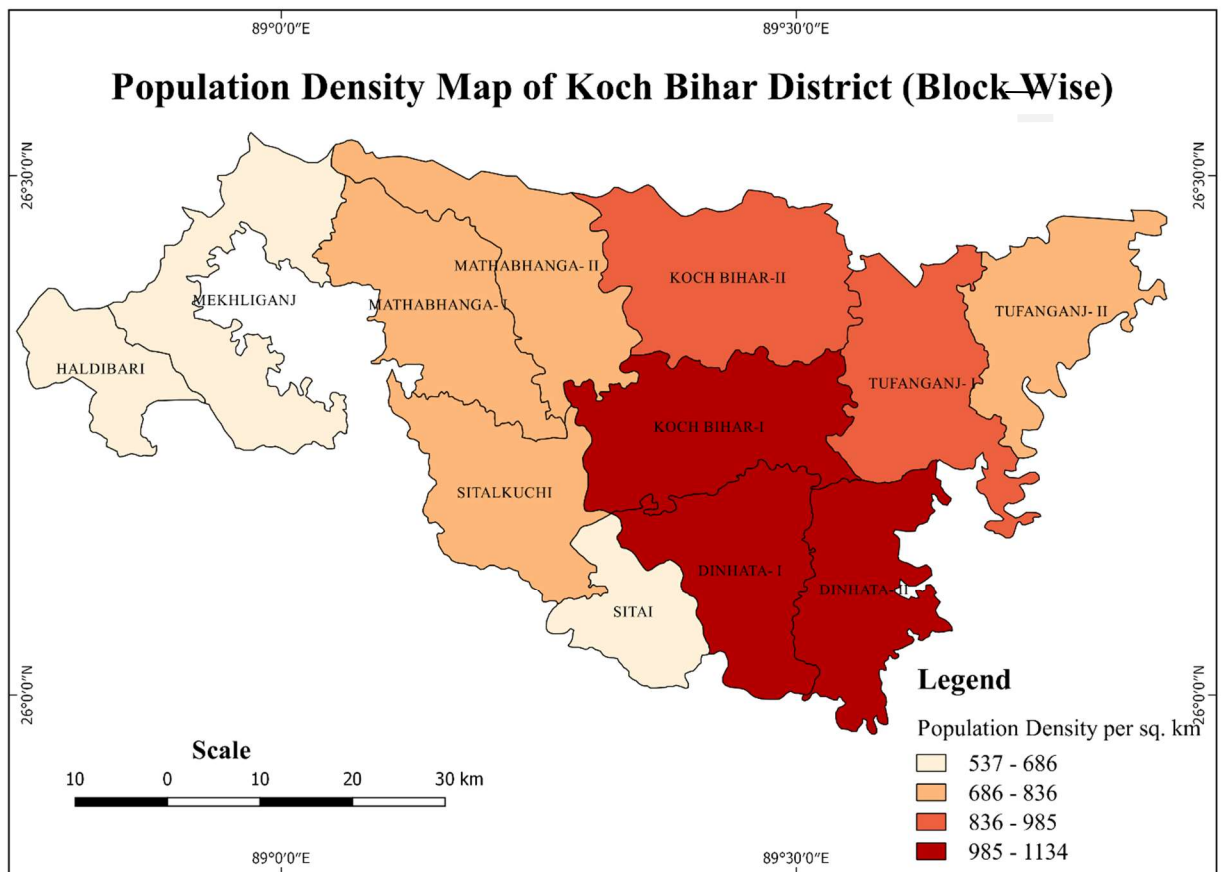
Map 2.7: Population Density Map of Koch Bihar District (Block-Wise)

2.5.2.3. Sex-Ratio

Males are more than female found all over the Indian sub-continent as well as West Bengal. Koch Bihar district is not exceptional. In Koch Bihar district males have always outnumbered females since 1901. The sex ratio going down up to 1951 when the sex ratio was 855 female per 1000 males. The sex ratio of the rural area was always less than in urban areas. In the 1901 census, the sex ratio of the rural area was 892 where urban areas 540 only. From 1961, the sex ratio increases until 2001. In 1991 it was 935 and in 2001 the sex ratio was 948 female per 1000 male population, where the rural sex ratio was 947 and the urban sex ratio was 964 female per 1000 male population. Present time (2011 census) the sex ratio of Koch Bihar district is 942 female per 1000 male population, where the rural sex ratio was 939 and urban sex ratio was 974 female per 1000 male population (figure 2.5).

2.5.2.4. Fertility

The population changes of a particular place, fertility have the greater influences over the other components of population changes. Fertility express as the production of offspring. For the measurement of the level of fertility, there have different measurements, such as

Crude Birth Rate, General Fertility Rate, Age-Specific Fertility Rate, Total Fertility Rate etc.

In West Bengal, the crude birth rate (CBR) is 17.3 whereas the study area has the CBR 18.6 in 2011 census. The Total Fertility Rate (TFR) of Koch Bihar district was 3 in 2001 census and present time it (TFR) declines 2.3 against the state average 2 in 2011 census.

Figure 2.5: Variation of Sex ratio of Koch Bihar District From 1901 to 2011
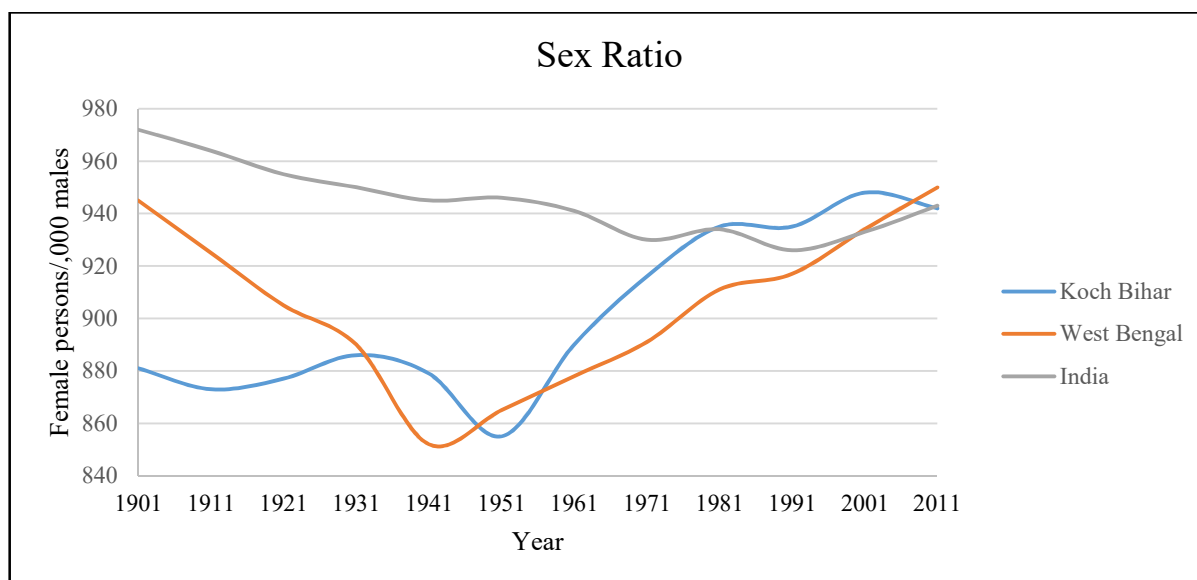
Source: Census of India.

2.5.2.5. Age-Sex Composition

The age-sex pyramid is the graphical method to express the composition of the population of a specific area. It is age and sex-wise population distribution over X and Y-axis. The importance of age-sex pyramid is very wider in demography. It indicates the socio-economic development, women empowerment and dependency population etc. The structure of the pyramid indicates the level of development. Basically, in a developed country the base of the pyramid is small than the middle parts of the pyramid and developing countries have a wider base because of the high birth rate. The base of the pyramid indicates the child population, the middle part of the pyramid express the working population and the upper part of the pyramid indicate the ageing population. The age-sex pyramid also expresses the level of fertility, mortality, migration. High fertility- wider base, high mortality- wider top and wider middle part indicate more working population. Similarly, low fertility indicates narrow base, low mortality-wider top.

Figure 2.6: Age-Sex Pyramid of Koch Bihar District
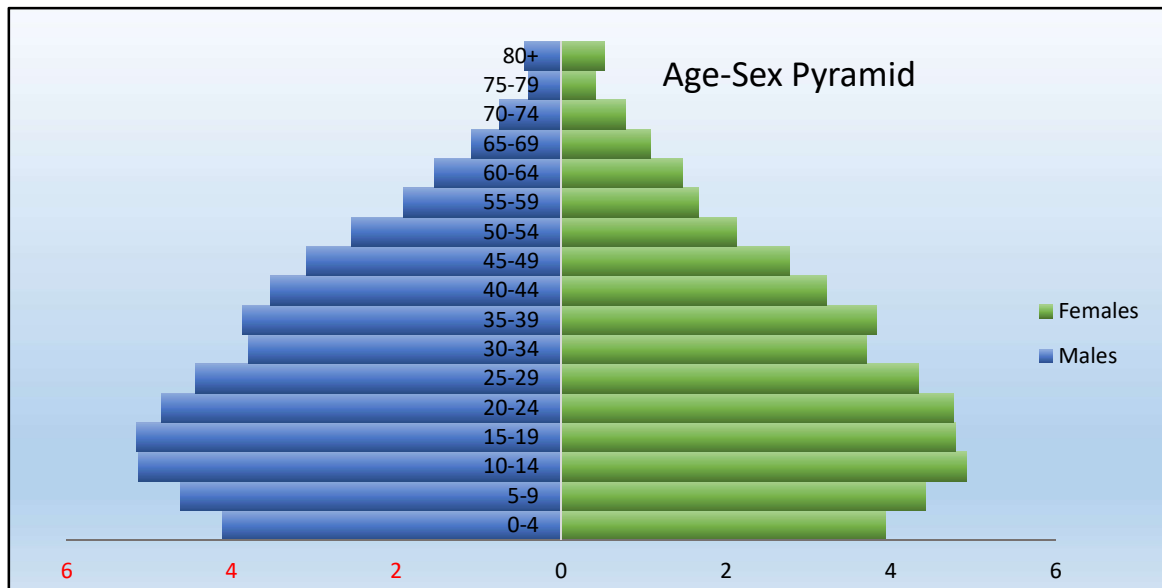
Source: census of India, 2011

The age-sex pyramid of Koch Bihar district looks like a pyramid of developing countries. This pyramid indicates high fertility and high mortality with a high dependency ratio. The child dependency ratio (0-14 age group) of Koch Bihar district is 42percent and the old-age dependency ratio is 13percent in 2011. The total dependency ratio of Koch Bihar district is about 55percent (figure 2.7).

2.5.2.6. Rural and Urban Distribution of Population

Koch Bihar district has the international border of its one-third boundary. The district's economy is based on agricultural activity. So, the urban population cannot be developed well. The district has about 90percent rural population and only 10 percent in urban. The basic urban amenities are not found all over the districts urban areas. Mainly Koch Bihar Sadar (municipalities) has well urban amenities. Out of 12 blocks, only 7 blocks have the urban population. Koch Bihar-II block has the highest amount of urban population (table 2.8).

Table 2.8: Rural-Urban Distribution of Koch Bihar District

Blocks	Rural			Urban			Total Population		
	No. of Male	No. of Female	Total	No. of Male	No. of Female	Total	No. of Male	No. of Female	Total
Koch Bihar-I	1,51,337	1,41,930	2,93,267	16,848	16,443	33,291	1,68,185	1,58,373	3,26,558
Koch Bihar-II	1,51,946	1,37,971	2,89,917	27,645	26,339	53,984	1,79,591	1,64,310	3,43,901
Dinhata-I	1,45,325	1,36,565	2,81,890	2,277	2,102	4,379	1,47,602	1,38,667	2,86,269
Dinhata-II	1,26,663	1,17,403	2,44,066	-	-	-	1,26,663	1,17,403	2,44,066
Sitai	56,016	54,317	1,10,333	-	-	-	56,016	54,317	1,10,333
Mathabhanga-I	1,12,497	1,05,694	2,18,191	-	-	-	1,12,497	1,05,694	2,18,191
Mathabhanga-II	1,17,100	1,10,297	2,27,397	-	-	-	1,17,100	1,10,297	2,27,397
Sitalkuchi	94,277	91,076	1,85,353	-	-	-	94,277	91,076	1,85,353
Mekhliganj	77,801	72,966	1,50,767	2,251	2,232	4,483	80,052	75,198	1,55,250
Haldibari	52,851	51,118	1,03,969	-	-	-	52,851	51,118	1,03,969
Tufanganj-I	1,25,672	1,17,584	2,43,256	2,743	2,596	5,339	1,28,415	1,20,180	2,48,595
Tufanganj-II	93,431	87,815	1,81,246	2,791	2,689	5,480	96,222	90,504	1,86,726
District Total	13,04,916	12,24,736	25,29,652	1,46,626	1,42,808	2,89,434	14,51,542	13,67,544	28,19,086

Source: Census of India, 2011

2.5.2.7. Caste and Religion Composition

Koch Bihar district has the largest number of *Rajbanshis* people that's why; the SC population is high concentrated (50.2percent, in 2011) over the other castes, like ST (0.6percent, in 2011) and OBC. More than 50percent of people are SC category in the district. In West Bengal, the largest number of SC population found in Koch Bihar district. In 1991, the SC population was 51.76percent to the total population and in 2011 census it is 50.2percent to the total population. The percentage is decreasing but the absolute number of SC population is increasing today (table 2.9).

In the religious composition, the Hindu (76.44%) is the largest religion in the district in 2011 census followed by Muslim (23%).

Table 2.9: Caste and Religion Composition

Caste & Religion Composition	1991	2001	2011
SC	1123719	1242374	1414336
% of Total	51.76	50.11	50.2
ST	13273	14246	18125
% of Total	0.6	0.54	0.6
Hindu	1659733	1871857	2087766
% of Total	76.44	75.5	74.06
Muslim	506728	600911	720033
% of Total	23.34	24.24	25.54
Others	4684	5648	7033
% of Total	0.22	0.23	0.27

Source: Census of India, 2001 & 2011

2.5.2.8. Agriculture of Koch Bihar District

The economy of Koch Bihar district is based on agriculture. In the Koch Bihar district, the principal crops are Rise, Cereals, Pulses, Foodgrains, Oilseeds, and Fibres etc. Rise is the dominant crop in the cultivation in Koch Bihar. Up to the 2008-2009 year, the area was increasing but from that period, the area of cultivation is decreasing. The land use pattern of Koch Bihar district is very dynamically changed. The agricultural land is converted into residential area or industry or other purposes (Census of India, 2011).

Table 2.10: Production and Yield Rates of Principal Crops in Koch Bihar District

Crops	2007-08		2008-09		2009-10		2010-11		2011-12	
	Production ('000 ton)	Yield Rates (kg per ha.)	Production ('000 ton)	Yield Rates (kg per ha.)	Production ('000 ton)	Yield Rates (kg per ha.)	Production ('000 ton)	Yield Rates (kg per ha.)	Production ('000 ton)	Yield Rates (kg per ha.)
Rice	518.8	1768	500.4	1615	561	2047	656.9	2386	600.7	2198
Total Cereals	606.3	1911	566.4	1720	648.8	2177	730.5	2471	678.8	2308
Total Pulses	3.7	625	4.4	618	4.1	711	4.1	730	4.4	695
Total Food grains	610	1887	570.8	1697	652.9	2150	734.6	2439	683.2	2275
Total Oil Seeds	9.6	0	6.2	422	6.3	518	8.2	568	7.5	501
Total Fibres	988.6	11.2	980.8	11.5	1088.5	12.4	715.1	9.5	1029.4	12.96
Total Misc. Crops	514.2	13496	376.9	7825	883	17767	690.3	13240	736.9	14775

Source: Directorate of Agriculture, Government of West Bengal

Table 2.10 shows the production and yield of principal crops of Koch Bihar district in 2007-08 to 2011-12 time periods. The production of rice is increased 15.78percent between these periods. The maximum increases occurred among these crops is misc. crops (+43%). It indicates the agriculture of Koch Bihar district is transforming intensive farming to mix or horticulture. The production of oilseeds is decreasing today in Koch Bihar district. The yields rates (kg per hector) of crops are increasing. The yields rates (kg per hector) increased the maximum of oil seeds followed by rise, fibre.

2.5.2.9. Occupational Structure of Koch Bihar District

The economy of a particular region is dependent on its working population, which is also called the occupational structure of that region. The working population includes the peoples who are economically active and who are shaking to the work. The working population is divided into main workers (those people who are working at least 183 days), marginal workers (less than 183 days) according to the 1981 census.

Table 2.11: Occupational Structure of Koch Bihar District in 2011 (Block-Wise)

Name of Blocks	% of Workers	Cultivators (in %)	Agricultural Labourer (in %)	Household Workers (in %)	Others (in %)
Sitai	45.67	41.96	44.92	1.67	11.45
Mathabhanga - I	44.94	47.24	31.21	1.71	19.84
Koch Bihar - I	41.21	23.01	32.37	5.44	34.34
Mekhliganj	41.12	48.22	34.04	1.7	16.03
Tufanganj - I	40.49	24.69	34.95	9.94	30.42
District	40.01	32.34	34.74	3.6	29.32
Tufanganj - II	39.87	28.7	33.82	5.77	31.72
Mathabhanga - II	39.79	34.25	39.06	2.64	24.05
Dinhata - I	39.73	30.49	39.07	3.64	26.8
Dinhata - II	39.69	33.51	51.06	1.34	14.09
Sitalkuchi	39.53	56.59	29.94	1.96	7.42
Haldibari	37.91	37.92	44	1.31	16.71
Koch Bihar - II	37.31	21.35	33.77	3.04	41.85

Source: Census of India, 2001 & 2011

The working populations are distributed unequally over the district. Sitai block has the highest percentage of workers (45.67%) followed by Mathabhanga-I (44.94) and Koch Bihar-I (41.21%). The minimum percentage of the working population found in the Koch Bihar-II (37.31 %), Haldibari (37.91%), Sitalkhuchi (39.53%). The maximum percentage of cultivators found in Sitalkhuchi block (56.59%) followed by Mekhliganj (48.5%). The agricultural labour maximum found in Dinhata-II block (54.06%) and the lowest is found in

Mathabhanga-I block. The household workers have a significant role on the district economy. It increases today. Tufanganj-I have the highest percentage of household workers like 9.94 percent (table 2.11).

Table 2.12: Number and Area of Holding by Size Class

Sl. No.	Block	Individual Holdings		Institutional Holdings		Total Holdings	
		Number	Area (ha)	Number	Area (ha)	Number	Area (ha)
1	Koch Bihar-I	28501 (100)	25566 (99.9)	1 (0)	25 (0.1)	28502 (100)	25591 (100)
2	Koch Bihar-II	26496 (100)	23211 (100)	0 (0)	0 (0)	26496 (100)	23211 (100)
3	Dinhata-I	32126 (100)	24111 (100)	0 (0)	0 (0)	32126 (100)	24111 (100)
4	Dinhata-II	29459 (100)	30368 (100)	0 (0)	0 (0)	29459 (100)	30368 (100)
5	Haldibari	7084 (99.99)	4265 (99.84)	1 (0.01)	7 (0.16)	7085 (100)	4272 (100)
6	Mathabhanga-I	54436 (100)	48943 (99.99)	1 (0)	7 (0.01)	54437 (100)	48950 (100)
7	Mathabhanga-II	23118 (99.97)	17196 (97.9)	6 (0.03)	368 (2.1)	23124 (100)	17564 (100)
8	Mekhliganj	22205 (99.34)	15309 (88.41)	147 (0.66)	2006 (11.59)	22352 (100)	17315 (100)
9	Sitai	15789 (99.99)	11545 (99.92)	1 (0.01)	9 (0.08)	15790 (100)	11554 (100)
10	Sitalkuchi	41302 (100)	26736 (99.97)	1 (0)	8 (0.03)	41303 (100)	26744 (100)
11	Tufanganj-I	29004 (100)	30519 (99.97)	1 (0)	8 (0.03)	29005 (100)	30527 (100)
12	Tufanganj-II	13598 (99.99)	12287 (99.93)	1 (0.01)	8 (0.07)	13599 (100)	12295 (100)
13	District	323118 (99.95)	270056 (99.1)	160 (0.05)	2446 (0.9)	323278 (100)	272502 (100)

Source: Agricultural Census, 2010-11

There is a long history of relationship between migration and development (Garni, 2013). The above table is showing the block-wise distribution land holdings and number of households in Koch Bihar district. The land holding is divided into two categories viz., individual holdings and institutional holdings. The block Koch Bihar-II, Dinhata-I and II reveals all the households having individual holding while the district having overall 99.95 percent of individual holding covered 99.1 percentage of individual area. Institutional holdings were comparatively very less in the district. Rural households receiving remittances which having a

significant impact on landholdings (Durand and Massey, 2005).Household having large amount of land having higher propensity of migration (Van, 2005), although landless households also migrate to purchase land (Garni, 2013).

2.6. Conclusion:

In the conclusion of the district, we found that this district characterized by majority parts of flat and monotonous relief having waterlogged and flood-related problems. And the entire district is fulfilled by river-borne sand and silt. From the above study for the suitable physical set-up of the district developed agro-based human settlement. Generally, after independence of the country huge Bangladeshi immigrants came into this district which putting enormous pressure into the agriculture system of rural Koch Bihar district. According to Human Development Report, 2004, West Bengal the district ranked (HDI 0.52) in 11th position out of all districts in Bengal which reveals the district is not well certain spheres of economy. The major findings are;

1. The population of district Koch Bihar is that being ruled by feudatory rulers under British regime, the state has attracted considerable number of immigrants from other places, including the neighbouring districts. Immediately after independence along with partition, this immigration rose to 1, 45,916 out of a total population of 6, 71,158 which is almost 21.75%. Migration has been a key element of social evolution.

2. As per Census 2011, Koch Bihar has recorded a 50.17% concentration of population under Scheduled Castes category. Ethnicity wise the most dominant population group in Koch Bihar district are the *Rajbanshis.* They form around 75.2% of Scheduled Castes population and 37.72% of total population in the state. Next comes the *Namasudras* who form 12.61% of Scheduled Castes in the district.

3. The study finds major alteration of agricultural land into the built-up area. There is also a significant reduction in vegetation cover in Koch Bihar district during the period. Urban expansion and population growth lead to a drastic change in land use/land cover.

4. The size of the population was more or less constant up to 1951. Within 50 years, the population only increased more or less 1 lakh. After 1951 the population increased very rapidly because of immigration from Bangladesh. After 1947, the partition of India, the district having an unprecedented rate of population growth was recorded

due to huge immigrants from East Pakistan (now Bangladesh). The debate have raised for illegal immigrants or 'refugees' but this cross border migration it refused that they are not refugees. Although from 1991 onwards growth rate has started declining.

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CHAPTER-3

OVERVIEW OF THE RURAL OUT-MIGRATION SCENARIO

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OVERVIEW OF THE RURAL OUT-MIGRATION SCENARIO

3.1. Introduction:

In recent years the migration study has become a complex issue in all nations and many economists, socialists, policymakers as well as research scholars are to examine causes, consequences, trends and patterns, socio-economic development of the people, etc. In this regard, a study is made to examine the 'migration scenario' in Koch Bihar district of West Bengal. Srivastava, Sasikumar and Giri (2003) studied the majority of household engaged in migration which effects on households socio-economic condition and have a significant impact on the national economy (Srivastava, Sasikumar, & Giri, 2003). Through the national Census, it is clear that there is a huge number that are increased in the last 40 years. Both internal and international migration is relatively increased where most of the migration occurred in the intra-district level of rural-rural area moving of women due to their marriage. Besides, male rural out-migration of males seeking economic gain (Singh, 1992).

3.2. Migration Scenario in Indian Context:

India is a large democratic country which has several social, cultural, economic, and political determinants of migration. In the study of migration scenario in India during the 19th to 20th centuries has huge and massive movements of people to other parts of the world. Although perfect and exact estimates are not available on international migration from India, some important report has been published by World Bank.

The long-term migration of India especially indicated for the livelihood strategy for poor peoples and their livelihood. The short-term out-migration effects recent rural development and which is the part of future development (Chatterjee, 2018).

3.2.1. Migration Inflow and Outflow

According to "United Nations Statistics Division" (2017) migration flows "refer to the number of migrants entering or leaving a given time, usually one calendar year".Migration flow from one place (origin) to another (destination), is called immigration, in the other hand, it is called out-migration at the origin of migration which creates a spatial pattern of migration flow system at the level socio-economic development (R. B. Bhagat & Keshri, 2019).

The 2011 Census shows the bilateral flows of migration from State/U.Ts at 5-year interval, from where it is clear that the major amount of migrants coming out from Uttar Pradesh, Bihar, Madhya Pradesh, and West Bengal during this period. Besides, the study found the main receivers of migrants are Maharashtra, Gujarat, Madhya Pradesh, Delhi and Punjab. The report shows Uttar Pradesh is the maximum number of migrants for origin state from where most of the migrants are out-migrated to Maharashtra, Delhi, Haryana, Gujarat and Madhya Pradesh. The figure also shows Bihar is the second-largest origin state of migration towards to destination of Maharashtra, Delhi, and West Bengal. In the other hand, it is clear that Maharashtra is the largest in-migrants state followed by Delhi, Punjab, Gujarat (Census of India, 2001; R. B. Bhagat & Keshri, 2019).

3.2.2. Distribution of Out-Migration in India

In NSSO 64th round identified the distribution of rural and urban out-migration has been collected in all India level **(Appendix-III.I).**

Table 3.1: One Sample t-test For the Distribution of Percent of Out-Migration in India, 2007-2008

Out-Migration	t	df	Sig.	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Rural Male Out-Migration	8.658	34	.000	7.66286	5.8642	9.4616
Rural Female Out-Migration	7.759	34	.000	12.17143	8.9837	15.3592
Urban Male Out-Migration	7.768	34	.000	5.94000	4.3860	7.4940
Urban Female Out-Migration	8.335	34	.000	8.98000	6.7905	11.1695

Data have been calculated by the researcher.

3.2.2.1. Migration by Rural Areas in India

The out-migration categorised into two ways viz., rural and urban-out migration. NSSO 64th round 2007-2008 estimated the distribution of out-migration all over the country of all state and Union Territories. The study revealed that the highest percentage of rural out-migration has been observed in Kerala (26.9%) followed by Himachal Pradesh (26.8%), Uttarakhand (18.6%), Haryana (18.5%), Maharastra (16.6%) and so on. The lowest percentage of rural out-migration scenario has been observed in Chandigarh. In this section, we got that the percentage of out-migration is significantly high comparatively another state and it also found that out-migration rate of males is predominant for economic purpose.

The NSSO 64th round 2007-2008 also shows that the male out-migration from Kerala (23.8%) was dominant followed by Haryana (20.8%), Uttarakhand (16.6%) whereas it was least in Delhi (0.1%). Rural out-migration of female population was predominantly high in Haryana (33.8%) followed by Himachal Pradesh (32.4%). In West Bengal rural out-migration of male was 6.9 percentage while female represnts 17.9 percent. The above table 3.1 reveals t-test of rural male and female percent of out-migration, it shows there is a significant variation of the distribution of male and female rural out-migration in India.

3.2.2.2. Migration by Urban Areas in India

The NSSO also reveals that the urban out-migration was highest in Kerala (23.2%) followed by Himachal Pradesh (16.2%), Lakshadeep (14.9%), Sikkim (13.5%) and so on. There is the least percentage of urban out-migration found in Meghalaya (1.8%) whereas Kerala was dominated by the nearest state like Tamilnadu, Karnataka and Maharastra. Comparatively, females are more migrated than the males. This was not an exception to the NSSO 64th round reports, where most of the state/U.Ts revealed the percentage of urban out-migration of females were high than the males due to their marriage. Result found 24.7 percent of females were migrated from urban areas to other places within the state. In this West Bengal, where nearby 4.2 percent of males and 12.6 percent of females were out-migrated from urban areas. The study observed that only one union territory namely Lakshadweep where 21.2 percent males were out-migrated due to different nearby another state. The above table 3.1 reveals t-test of urban male and female percent of out-migration, it shows there is a significant variation of the distribution of male and female urban out-migration in India.

3.2.3. Rural Out-Migration Flow in India

The out-migration rate of the male population was nearly 9 percent and 5 percent in rural and urban areas respectively. Comparatively, females were much more migrated than the male population. Similarly the female out-migration rate was nearly 17 percent and 11 percent in rural and urban areas respectively.

In India, nearly 74 percent of out-migrants from rural areas were migrated within the same state whereas 45 percent of within the same district and nearly 24 percent out-migrants visited another state. The out-migration flow within the same state was high in Gujarat (94.2%) followed by Maharastra (93.8%). Migration flow within the same district was predominant in Maharastra(42%) **(Appendix-III.J).**

The NSSO 64th round shows the majority of the sates of the country having the rural out-migration flow within the same state. The state namely Gujarat, Maharashtra and

Nagaland having more than 90 percent migration within the same state while Bihar, Delhi, Jharkhand, Daman & Diu, Puducherry having less than 50 percent rural out-migrants flow within the state and there are relatively more than 50 percent of rural out-migration flow towards another state. Chandigarh having more than 80 percent rural out-migration flows towards another state. As per NSSO reports 82 percent of rural out-migration in West Bengal has been observed within the state whereas 59.5 percent of them are within the same district and 22.5 percent is another district. And 17.2 percent of rural out-migrants out-flow to another state has been found. Table 3.2 focused the rural out-migration flow within the same state having higher variation.

Table 3.2: Rural Out-Migration Flow in India

Rural Out-Migration Flow	N	Mean		Std. Deviation	Variance
	Statistic	Statistic	Std. Error	Statistic	Statistic
Within the Same District	35	44.2714	2.50518	14.82084	219.657
Within the Same State	**35**	**69.8200**	**3.62197**	**21.42785**	**459.153**
Another district	35	25.5343	2.44464	14.46267	209.169
Another State	35	25.9714	3.15939	18.69121	349.362
Valid N (listwise)	35				

Data have been calculated by the researcher.

3.3. Inter-District Out-Migration in West Bengal

Inter-District out-migration is the dominant characteristics of Indian migration. Debnath and Nayak (2018) in their study of "male out-migration in West Bengal", they have to categorize the state into five different physiographic regions in the following table 3.3.

Table 3.3: Physiographic Regions of West Bengal

Sl. No.	Region	Districts
1	Hill and Terai	Darjeeling, Jalpaiguri and Koch Bihar
2	North Bengal plain	Uttar Dinajpur, Dakshin Dinajpur and Maldah
3	East Rarh Plain	Birbhum, Barddhaman and Hugli
4	South Bengal Plain	Nadia, N-24 Pargana, S-24 Pargana and Murshidabad
5	West Rarh Plateau Fringe	Bankura, Puruliya and Medinipur

Source: Debnath and Nayak (2018)

The study analyse the whole aspects of outmigration on the basis of physiographic regions. The northern district of Bengal like Koch Bihar, Jalpaiguri and Darjeeling categorised *underhill and Terai* region while northern Bengal plain covers Uttar Dinajpur,

Dakshin Dinajpur and Maldah district. The East *rarh* plain covers Birbhum, Barddhaman and Hugli while west *rarh* plateau fringe covers Bankura, Puruliya and Medinipur district of West Bengal. South Bengal plain covers the district Nadia, both twenty-four Parganas, and Murshidabad in West Bengal (Table 3.3).

Table 3.4: Percentage Distribution of Out-Migrants to Total Population, 2011

District/State	Out-Migration (Rural+Urban)		
	Persons	Males	Females
Koch Bihar	**6.15**	**4.01**	**8.42**
West Bengal	5.43	2.87	8.11

Source: Census of India, 2011, Migration D-Series

The above table 3.4 indicating Koch Bihar district comprises overall 6.15 percent out-migration while 4.01 percent was males and 8.42 percent was female's out-migration rate are recorded to total district population as per the Census of India, 2011 while it is higher than the state average.

Table 3.5: Percentage Distribution of Rural Out-Migrants to Total Rural Population, 2011

District/State	Rural Out-Migration		
	Persons	Males	Females
Koch Bihar	**3.36**	**1.55**	**5.28**
West Bengal	4.01	1.32	6.82

Source: Census of India, 2011, Migration D-Series

The above table 3.5 focused on the distribution of male and female rural out-migration in West Bengal and Koch Bihar district to total rural population. The Koch Bihar district having overall 3.36 percent of rural out-migration while 1.55 percent is males and 5.28 percent are female's rural out-migration from the district total rural population.

3.3.1. Social Group-Wise Rural Out-Migration

The distribution of Scheduled Caste (SC) population is affected by different socio-economic factors. This is one of the major components of the population of our country which carries all the characteristics of the main body of the population.

The Scheduled caste (SCs) considered as 'lower' in the social hierarchy and Scheduled Tribes (STs) considered as 'indigenous' tribal population benefited from migration at their origin as well in their destination (Singh and Rawat, 2020). The Census of India, 2011 provides about 16 percent total intra-state migrants belong from SCs and 8 percent belongs from STs in India. The Census 2011 depicts there are 50.01 percent of Scheduled Caste population to district total population in Koch Bihar district.

Table 3.6: Percentage Distribution of Scheduled Castes (SC) and Scheduled Tribes (ST) Rural Out-Migrants to District Rural SC and ST Population, 2011

District	SC TROM[a]	SC MROM[b]	SC FROM[c]
Koch Bihar	**3.42**	**1.52**	**5.44**
District	ST TROM[a]	ST MROM[b]	ST FROM[c]
Koch Bihar	**12.84**	**4.54**	**21.75**

[a]TROM-Total Rural Out-Migration, [b]MROM- Male Rural Out-Migration, [c]FROM-Female Rural Out-Migration
Source: Source: PCA, West Bengal, 2011 &Census of India, 2011, Migration D-Series, SC and ST Tables. Data have been computed by Researcher.

The study focused those northern districts of Bengal namely the Darjeeling, Jalpaiguri and Koch Bihar having a high rate of total rural out-migration of SC population in West Bengal while the high rate of ST rural out-migration is observed in Hugli, Bankura and Puruliya districts of West Bengal. The above table also focused that in the both SC and ST rate of rural out-migration the percentage of female rural out-migrants are higher than the percentage of male rural out-migrants in Koch Bihar district **(Appendix-III.G).**

3.3.1.1. Male Rural Out-Migration

The study found that the Koch Bihar district having overall 3.42 percent of Scheduled Castes and 12.84 percent of Scheduled Tribe out-migrants from the respective total population in the district. The result also shows that 1.52 percent of males and 5.44 percent of SCs are migrated to district total SC population in Koch Bihar district (table 3.6). The district shows that the SCs are the 'dominant caste' in the district where the majority of the scheduled castes families are depending on cultivation and labour activities. But, due to the lack of availability of agricultural activities and less profit earned from cultivation, majority of them have been in compulsion to leave their native villages and venture for '*bidesh*' (mainly visited to the outside of West Bengal is regionally called *bidesh*). Similarly, from the Nadia, Murshidabad and Haora districts spotted as high rate of scheduled caste male rural out-migration in West Bengal. Similarly, the district has 4.54 percent of male Scheduled Tribe rural out-migrants from the district total male ST Population.

3.3.1.2. Female Rural Out-Migration

Like Scheduled Castes male rural out-migration SC female out-migration from rural area having significant distribution in different district of West Bengal. Census 2011 showing

that Puruliya district having the highest number of female rural out-migrants to another district of West Bengal while Haora district is depicting 13.27 percent of female SCs rural out-migrants to other districts of West Bengal. The northern district of Koch Bihar showing 5.44 percent of SC female and 5.44 percent of ST female rural out-migrants to district total female STs population who have to migrate other districts of Bengal due to marriage, employment or work, education, moved with family and other related reasons (table 3.6).

3.3.2. Balance of Rural Out-Migration

The balance of migration is considered is the difference between the number ofemigrants and immigrants (Kumar and Sharma, 1980; Ohtsuka et al. 1985; Biswas and Jolian, 2007).The balance of migration both positive and negative. The calculated balance of migration less than 1 (one) it would be negative and more than 1 (one) it would be positive. The positive value indicates the region having more propensy of out-migration, otherhands negative value indicates more propensy of in-migration (Sharma and Singh, 1981; Debnath and Nayak, 2018). According to Kumar and Sharma (1980), migration balance is the total of difference inter-district emigration and inter-district immigration of population. This has been calculated as follows;

$$Bm = \frac{E}{I}$$

Where, Bm =Balance of Migration, E=Emigration and I=Immigration

From the calculation of the balance of rural out-migration the eleven districts show negative rural out-migration phenomena **(Appendix-III.M).**The districts from the North Bengal region namely Koch Bihar, Maldah and Uttar Dinajpur are recognized as positive balance of rural out-migration in West Bengal. Among the Southern district, Nadia and Haora having positive of balance migration. The calculation from the balance of male rural out-migration, the Koch Bihar district (+2.06) having the highest balance of male out-migration than the other districts of West Bengal (map 3.2). Similarly, the Haora district is the highest rate of balance of female rural out-migration followed by Koch Bihar district (map 3.3). The positive sign of balance of out-migration in several districts indicates the district having less number of in-migration from the other district or region owing to having limited number of economic and demographic opportunities. On the other hand, the negative sign of balance of out-migration indicating the district receiving the huge number of in-

migrants from the other districts or region (map 3.1). This is indicating that the region has economic and demographic potentiality (Stillwell, 2005; Debnath and Nayak, 2018).
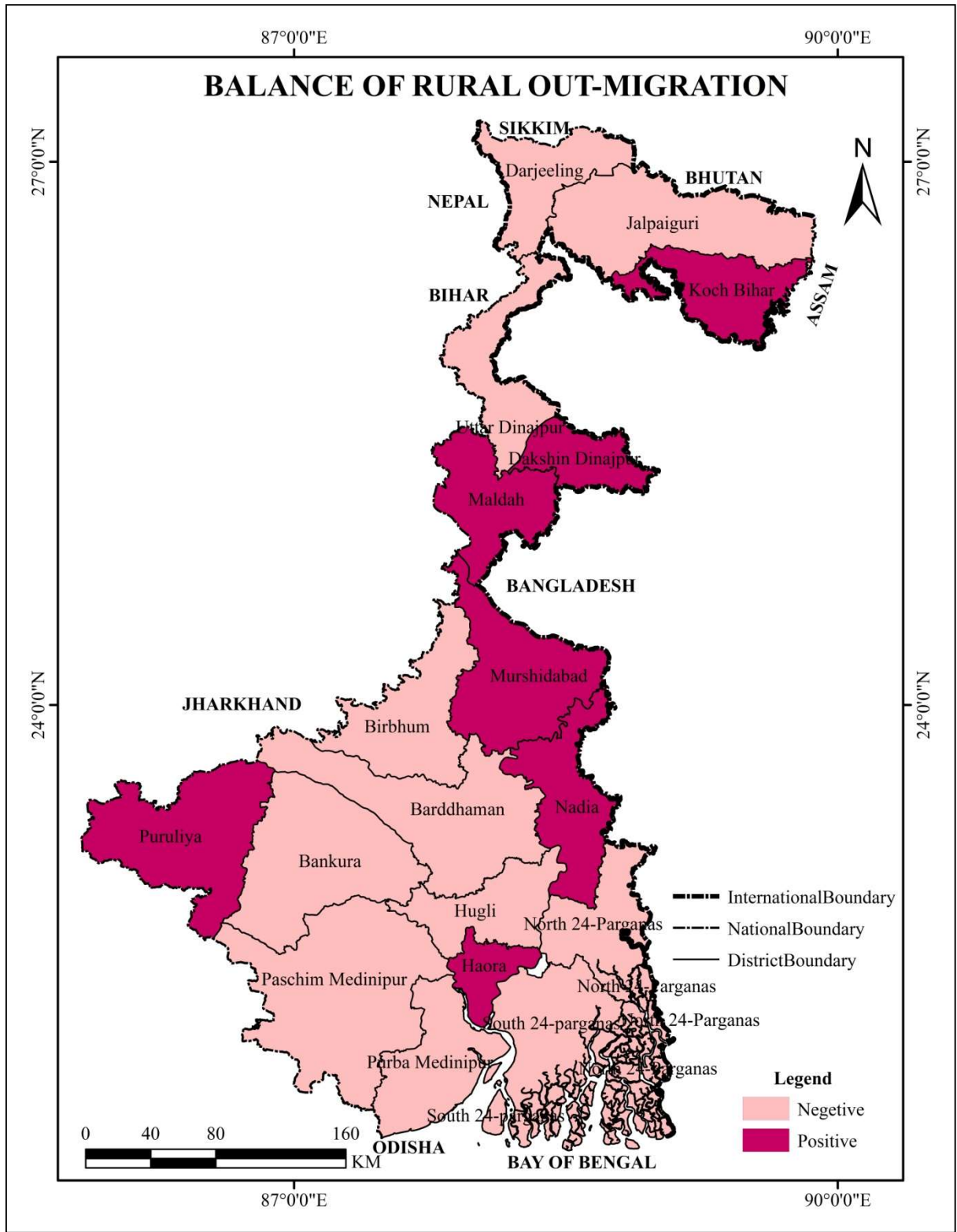
Map 3.1: Balance of Rural Out-Migration
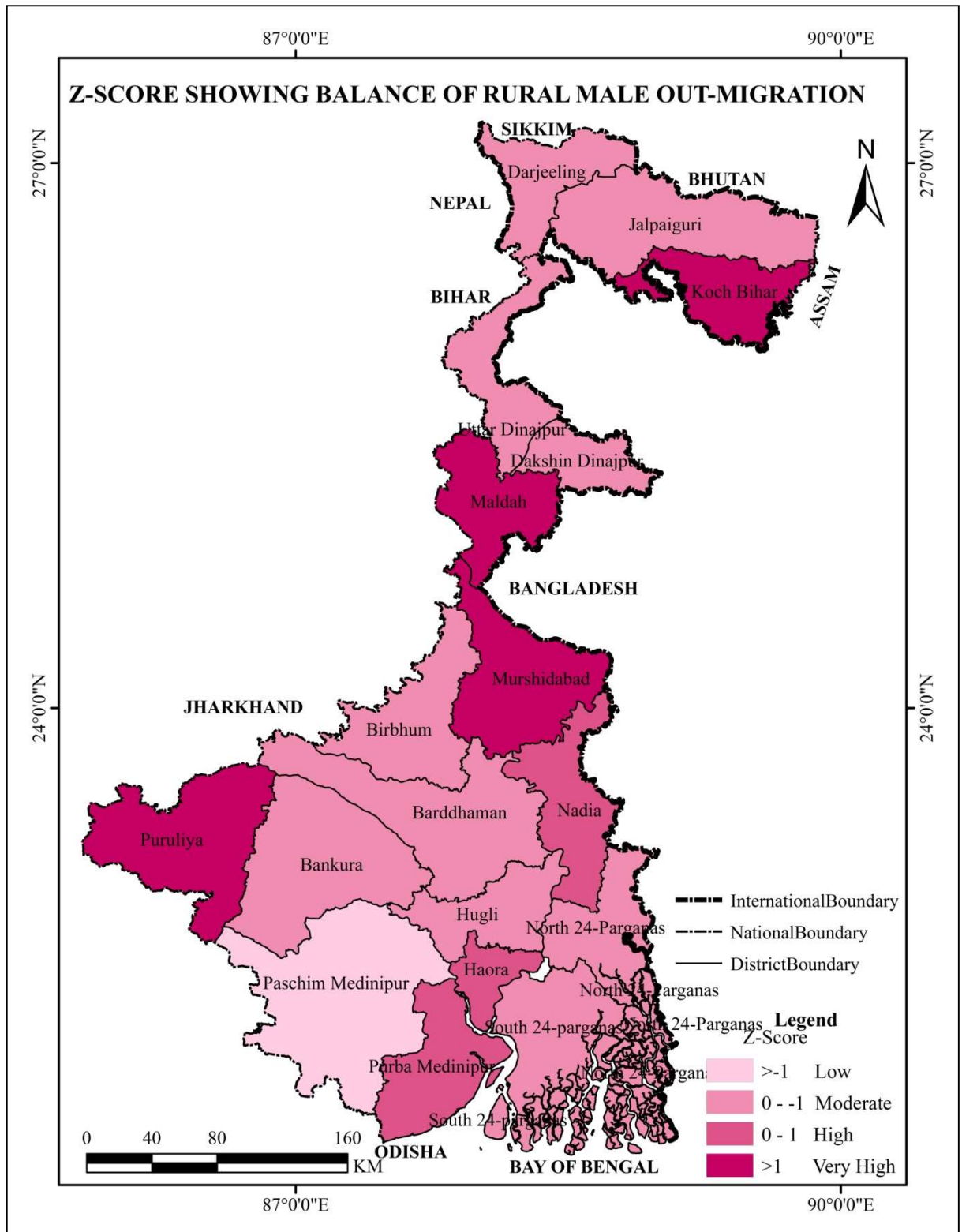
Map 3.2: Z-Score Showing Balance of Rural Male Out-Migration
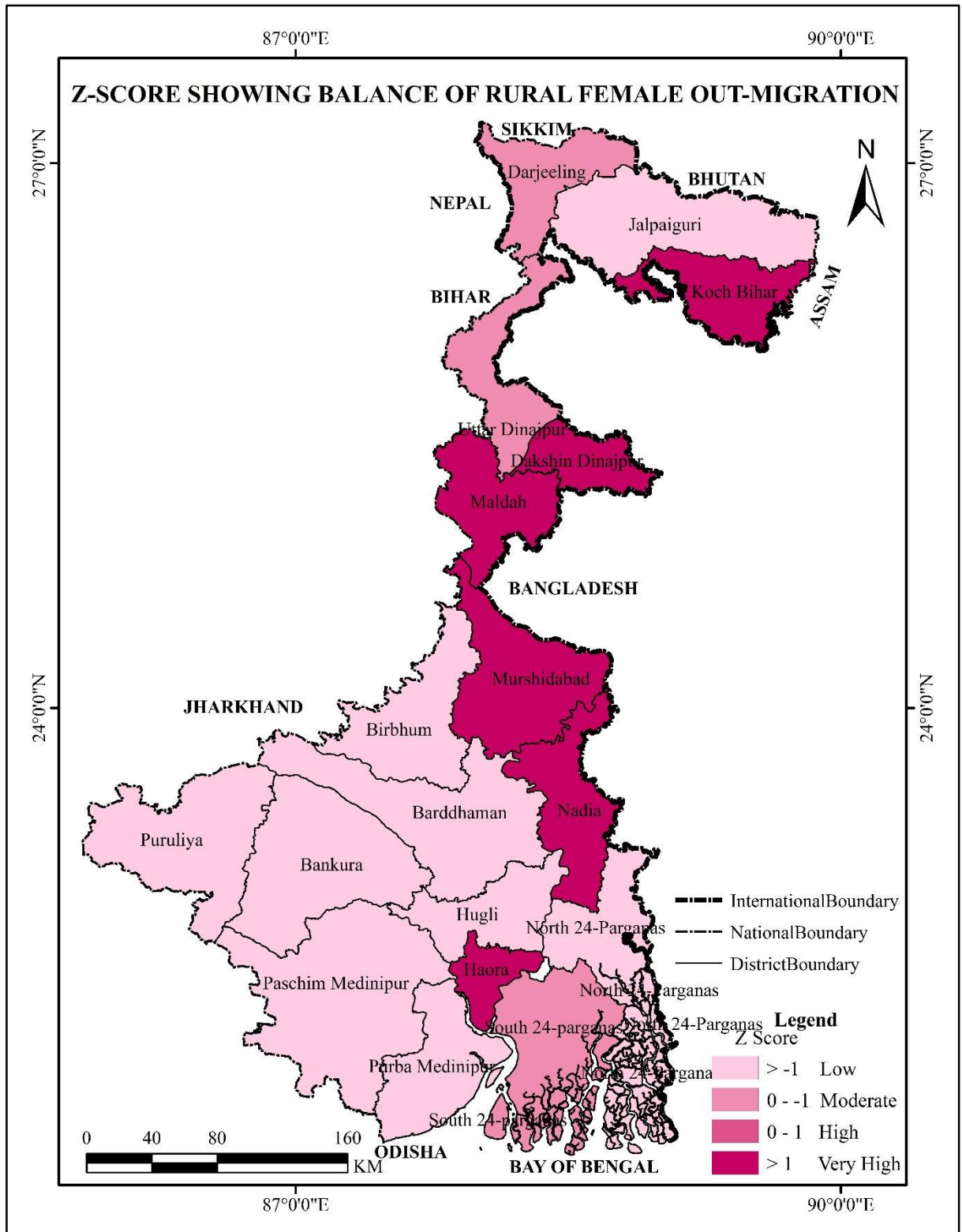
Map 3.3: Z-Score Showing Balance of Rural Female Out-Migration

3.3.3. Intensity of Rural Out-Migration Flow from Koch Bihar District

According to the Census of India 2011, out of 1.2 billion people about 69 percent persons are leaving rural areas. The major cities receiving a chunk of out-migrants of India like Mumbai, Delhi, and Kolkata are the important source of urban destination in India.

The inter-district out-migration from Koch Bihar district to other districts of West Bengal has shown as the table 3.13 as per the Census of India, 2011. The majority of inter-district out-migration to the other district shows nature as short-duration of migration. The migration flow out-side the state of West Bengal indicating the long-term out-migration from the district.

The 2011 Census data generally shows inter-district out-migration but unfortunately, the data does not provide adequate information regarding district to out-side another state of out-migration data.

Table 3.7: Percentage Distribution of Out-Migrants from Koch Bihar District to Other Major Districts of West Bengal, 2011

District	Total (%)			Rural (%)		
	Person	Male	Female	Person	Male	Female
Darjiling	10.57	14.34	8.66	7.04	13.69	4.95
Jalpaiguri	76.04	67.24	80.49	86.97	76.29	90.31
Uttar Dinajpur	1.89	2.26	1.70	1.81	2.90	1.47
Dakshin Dinajpur	0.73	0.81	0.69	0.55	0.81	0.47
Maldah	0.89	1.19	0.74	0.65	0.79	0.61
Murshidabad	0.42	0.55	0.36	0.17	0.22	0.15
Birbhum	0.12	0.15	0.10	0.11	0.21	0.09
Barddhaman	0.92	1.28	0.74	0.55	1.12	0.37
Nadia	1.46	2.26	1.05	0.88	1.75	0.61
North 24-Parganas	3.32	4.73	2.61	0.40	0.82	0.27
Hugli	0.63	0.93	0.48	0.14	0.24	0.12
Bankura	0.05	0.08	0.04	0.06	0.14	0.04
Puruliya	0.06	0.08	0.05	0.03	0.07	0.02
Haora	0.41	0.55	0.34	0.06	0.12	0.05
Kolkata	1.53	2.31	1.14	0.00	0.00	0.00
South 24- Parganas	0.74	1.01	0.60	0.40	0.64	0.32
Paschim Medinipur	0.16	0.17	0.16	0.12	0.13	0.11
Purba Medinipur	0.06	0.09	0.05	0.04	0.08	0.03
Total	100	100	100	100	100	100

Source: Census of India, 2011, Migration D-Series.
Data have been computed by the researcher.

INTER-DISTRICT OUT-MIGRATION FLOW FROM KOCH BIHAR DISTRICT

Legend
Migrants in Percentage
0.05 - 0.92
0.93 - 3.32
3.33 - 10.57
10.58 - 100
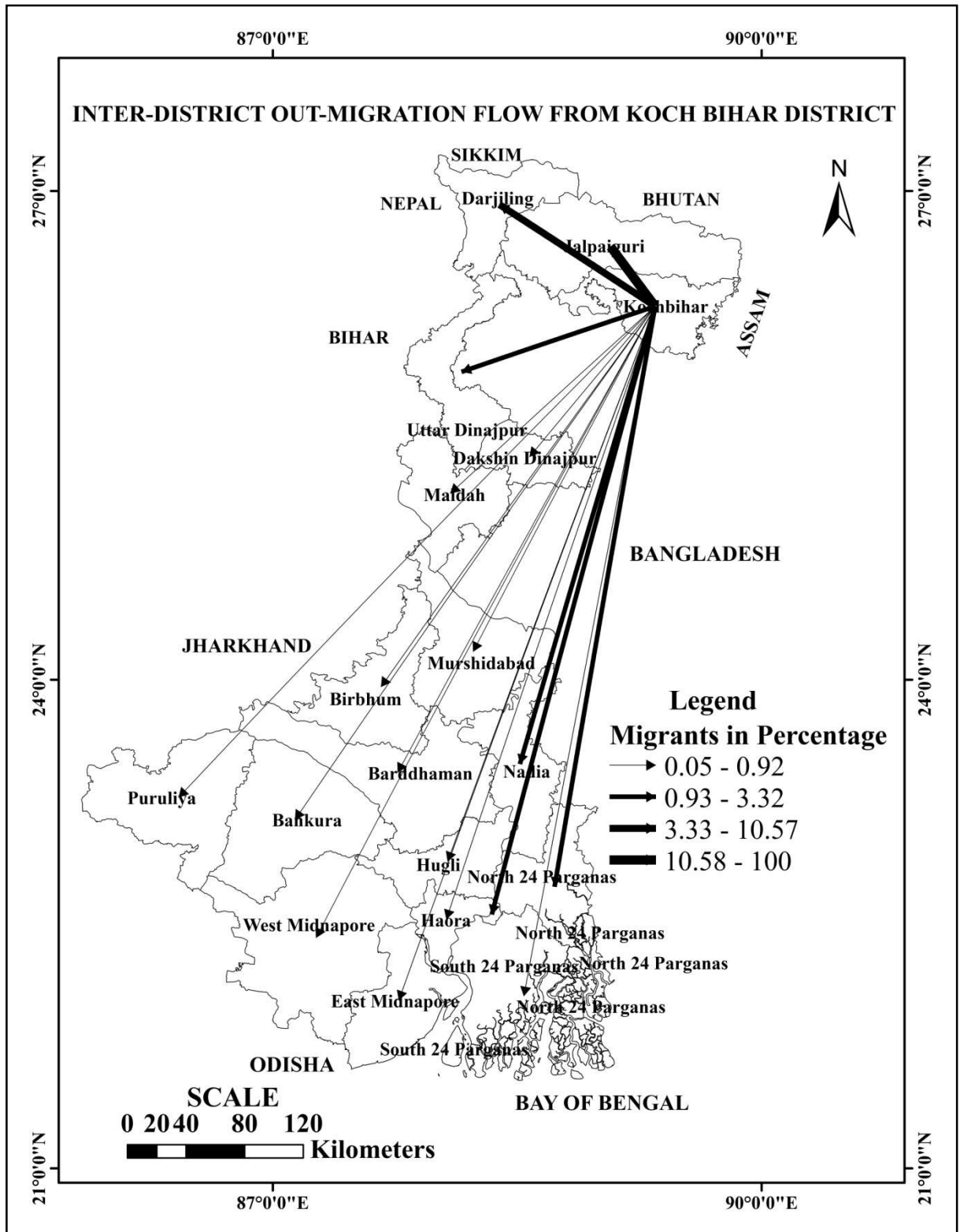
Map 3.4: Inter-District Out-Migration Flow From Koch Bihar District
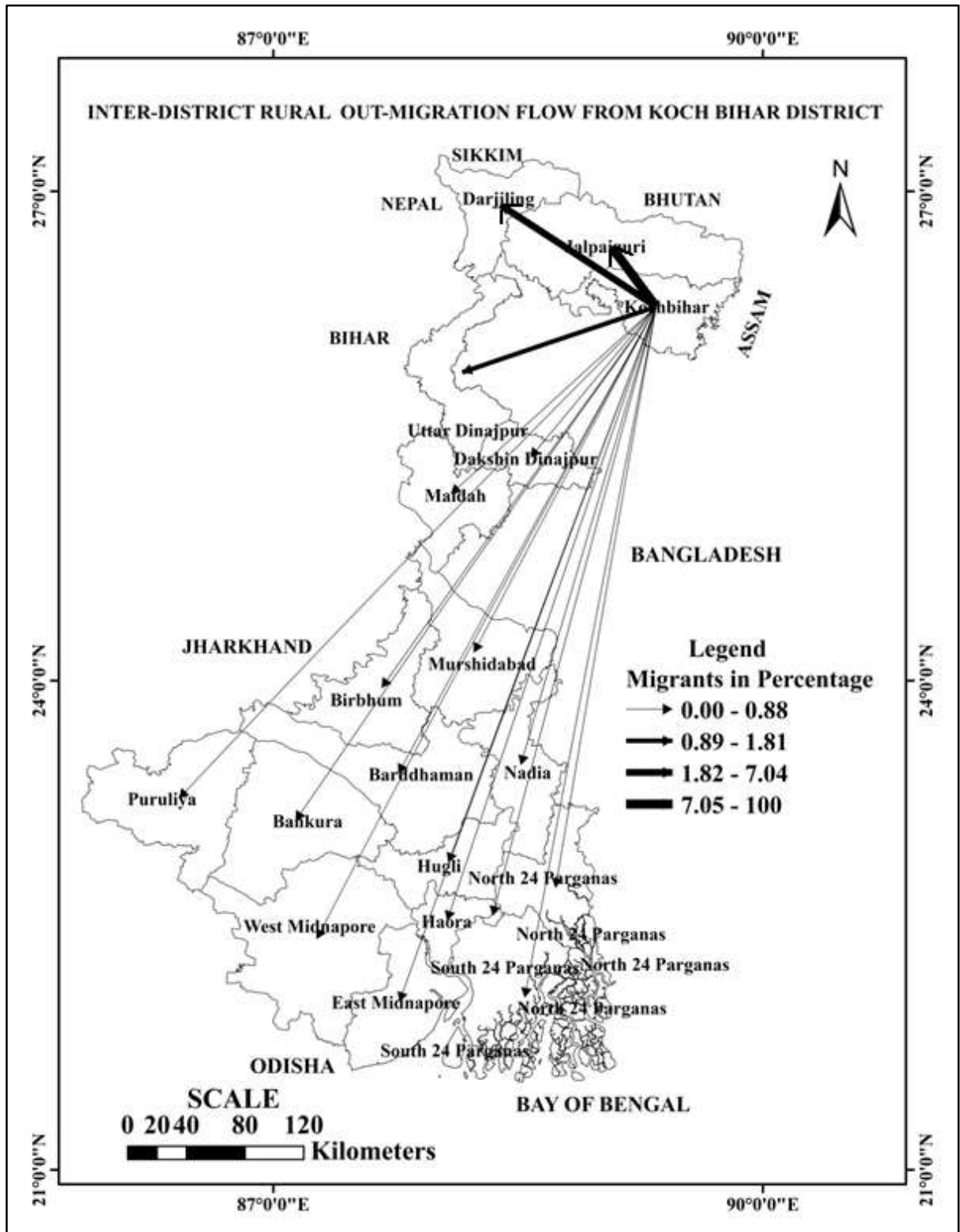
Map 3.5: Inter-District Rural Out-Migration Flow from Koch Bihar District

The above table 3.7 shows that of total out-migrants from Koch Bihar district 76.04 percent of them out-migrated to Jalpaiguri district. In these cases, the largest part of out-migrants usually ventures for the Siliguri metropolitan city. Apart from the Darjeeling district are also attracting a major part of out-migrants from Koch Bihar. It is the cost benefit

analysis decision aspiring the maximize income play the key roles for rural out-migration. The Census focused that 86.97 percent of total rural out-migrants are visited to Jalpaiguri as well as Siliguri region while 76.29 percent of them are males and 90.32 percent of them are female's out-migrants to total rural out-migrants from Koch Bihar district.

3.3. 4. Block-Wise Distribution of Rural Out-Migration in Koch Bihar District:

A field survey was conducted at the village level of the following Community Development blocks of Koch Bihar district during the 2017-2018 sessions.

Table 3.8: Percentage Distribution of Rural Out-Migrants to Total Out-Migrants, Koch Bihar District, 2017-2018

Name of the block		Persons		Total
		Male	Female	
Dinhata-I	Number	10	6	16
	% of Total	3.7	2.2	5.9
Dinhata-II	Number	22	2	24
	% of Total	8.1	.7	8.8
Haldibari	Number	8	2	10
	% of Total	2.9	.7	3.7
Koch Bihar-I	Number	30	2	32
	% of Total	11.0	.7	11.8
Koch Bihar-II	Number	14	0	14
	% of Total	5.1	0.0	5.1
Mathabhanga-I	Number	14	2	16
	% of Total	5.1	.7	5.9
Mathabhanga-II	Number	28	0	28
	% of Total	10.3	0.0	10.3
Mekhliganj	Number	14	4	18
	% of Total	5.1	1.5	6.6
Sitai	Number	8	0	8
	% of Total	2.9	0.0	2.9
Sitalkuchi	Number	46	6	52
	% of Total	16.9	2.2	19.1
Tufanganj-I	Number	34	4	38
	% of Total	12.5	1.5	14.0
Tufanganj-II	Number	10	6	16
	% of Total	3.7	2.2	5.9
Total	Number	238	34	272
	% of Total	87.5	12.5	100.0

Source: Field Survey, 2017-2018.

The result of the work depicting that the CD namely Sitalkuchi (19.1%) having the highest percentage of rural out-migrants followed by Tufanganj-I (14.0%), Koch Bihar-I (11.1%), Mathabhanga-II (10.3%) and so on. The highest rate of male out-migration has observed at Sitalkuchi block (16.9%) while the CD block Dinhata-I, Sitalkuchi and Tufanganj-II block having 2.2 percent of female out-migration (table 3.8).

According to the Primary Census Abstract (PCA), 2011 of Koch Bihar, the district having overall 52.28 percent of Scheduled Castes (SCs) population whereas 26.9 percent of them are male and 25.34 percent of them are females to district total population. On the other hand, the district has a very low percentage of Scheduled Tribes (STs) population. Out of total the district having 0.65 percent of Scheduled Tribes (STs) while 0.34 percent of them are males and 0.31 percent of them are females to district total population. According to the Census report, the CD block Mekhliganj consists 71.24 percent of SC population to block total population followed by Mathabhanga-I (68.7%), Sitai (66.9%), Mathabhanga-II (64.92%), Haldbari (61.18%), Sitalkuchi (54.50%), Tufanganj-II (53.76%) and so on. So, it is clear that the majority of the consisting the SC population. On the other hand, the STs Population is very low percent to the total population of every block population.

The table 3.9 focused that, out of all SC out-migrants 88.8 percent of them are male respondent and 11.2 percent are female respondent in the Koch Bihar district. The CD block Sitalkuchi having a higher rate of SC male out-migration (15.7%) while 13.5 percent of them are males and 2.2 percent of them are females. The study also focuses that all the SC out-migrated persons from Dinhata-II, Koch Bihar-I, Koch Bihar-II, Mathabhanga-II, Mekhliganj and Sitai are categorized under male out-migration. Out of all ST migrants, 75 percent comprises male's and 25 percent are females migrant category in the district. Similarly in the OBC category, 92.1 percent of the migrated respondents are males and remaining 7.9 percent of them are females. The study found that only, other than SC, ST and OBC, the rate of female out-migration is higher among general caste categories in the Koch Bihar district. Out of all general categorised out-migrants, 60 percent of them are females and 40 percent are males. This is important that the majority of females are out-migrated in the family or moved out with household in the time of out-migration as consequential migration. The Field Study depicting that the majority of the females from Dinhata-I, Sitalkuchi and Mekhiganj block, are moving with their family member to the other places for the jobs in brickfield or marriage related reasons.

Table 3.9: Percentage Distribution Rural Out-Migrants among Different Social Groups in Koch Bihar District, 2017-2018

Block	SC		Total	ST		Total	OBC		Total	General		Total
	Male	Female		Male	Female		Male	Female		Male	Female	
Dinhata-I	4.5	2.2	6.7	0.0	0.0	0.0	2.6	0.0	2.6	0.0	20.0	20.0
Dinhata-II	11.2	0.0	11.2	25.0	25.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0
Haldibari	2.2	1.1	3.4	0.0	0.0	0.0	5.3	0.0	5.3	0.0	0.0	0.0
Koch Bihar-I	11.2	0.0	11.2	0.0	0.0	0.0	13.2	2.6	15.8	0.0	0.0	0.0
Koch Bihar-II	6.7	0.0	6.7	0.0	0.0	0.0	2.6	0.0	2.6	0.0	0.0	0.0
Mathabhanga-I	4.5	1.1	5.6	0.0	0.0	0.0	5.3	0.0	5.3	20.0	0.0	20.0
Mathabhanga-II	11.2	0.0	11.2	0.0	0.0	0.0	10.5	0.0	10.5	0.0	0.0	0.0
Mekhliganj	4.5	0.0	4.5	0.0	0.0	0.0	7.9	2.6	10.5	0.0	20.0	20.0
Sitai	4.5	0.0	4.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sitalkuchi	13.5	2.2	15.7	25.0	0.0	25.0	23.7	0.0	23.7	20.0	20.0	40.0
Tufanganj-I	12.4	1.1	13.5	0.0	0.0	0.0	15.8	2.6	18.4	0.0	0.0	0.0
Tufanganj-II	2.2	3.4	5.6	25.0	0.0	25.0	5.3	0.0	5.3	0.0	0.0	0.0
Total	88.8	11.2	100.0	75.0	25.0	100.0	92.1	7.9	100.0	40.0	60.0	100.0

Source: Field Survey, 2017-2018.

SC-Scheduled Caste, ST-Scheduled Tribe, OBC-Other Backward Class (Both the category i.e.,OBC-A basically for Minority Muslims and OBC-B indicating Other Religions), General- indicating other than SC, ST and OBC
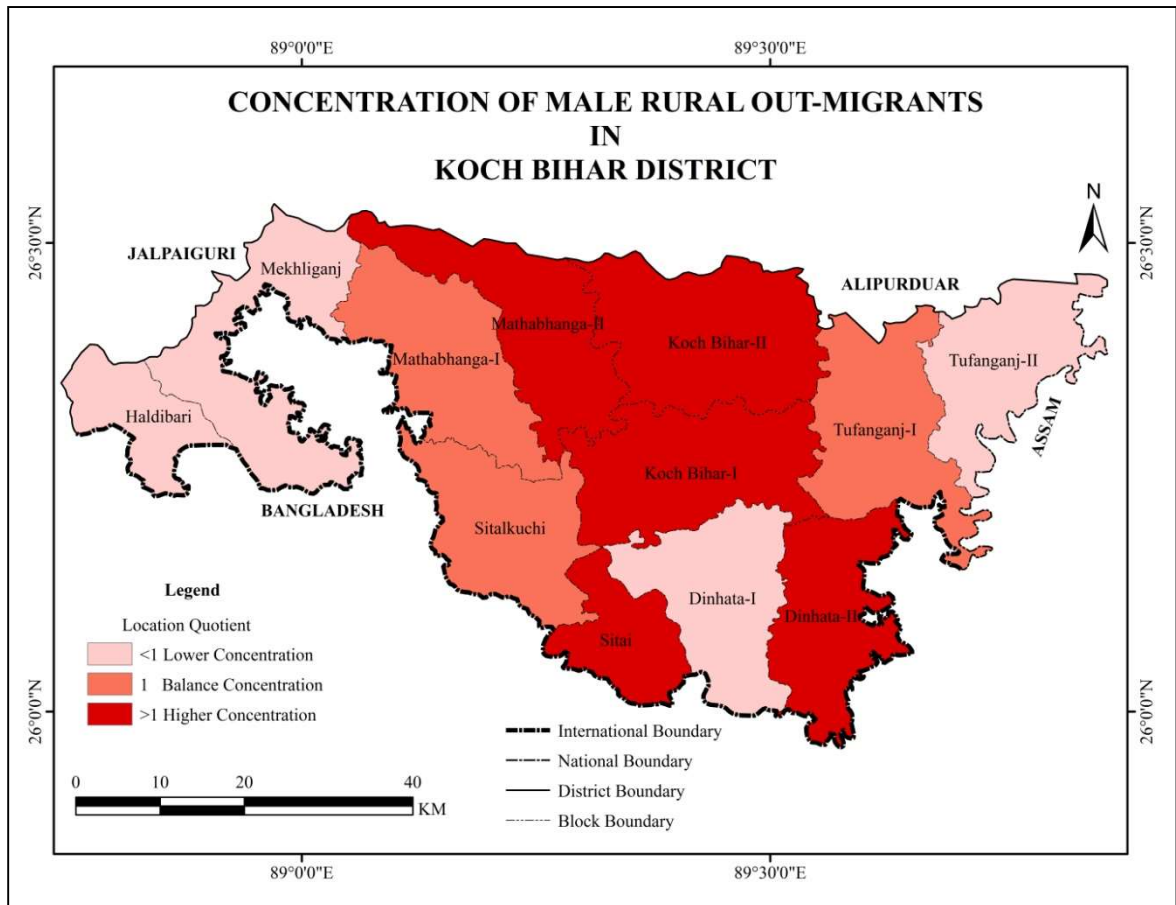
Map 3.6: Concentration of Male Rural Out-Migrants in Koch Bihar District
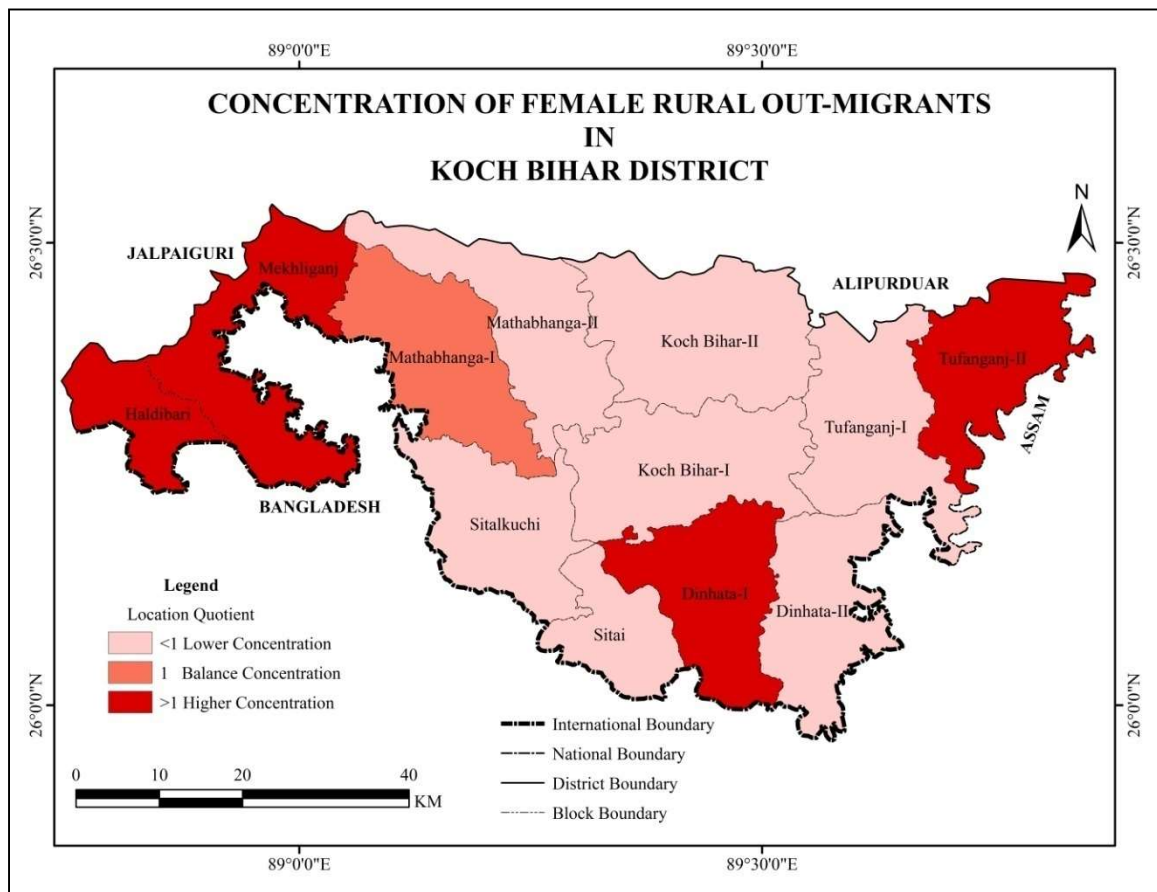
Map 3.6: Concentration of Female Rural Out-Migrants in Koch Bihar District

The map 3.6 depicting six blocks namely Sitalkuchi, Sitai, Dinhata-II, Tufanganj-I, Koch Bihar-I. Koch Bihar-II and Mathabhanga-II in Koch Bihar district having higher concentration of male rural out-migration than rest blocks in Koch Bihar district. Similarly map 3.7 depicting about female concentration of rural out-migration in Koch Bihar is higher in Dinhata-I and Tufanganj-II block **(Appendix-III.N)**.
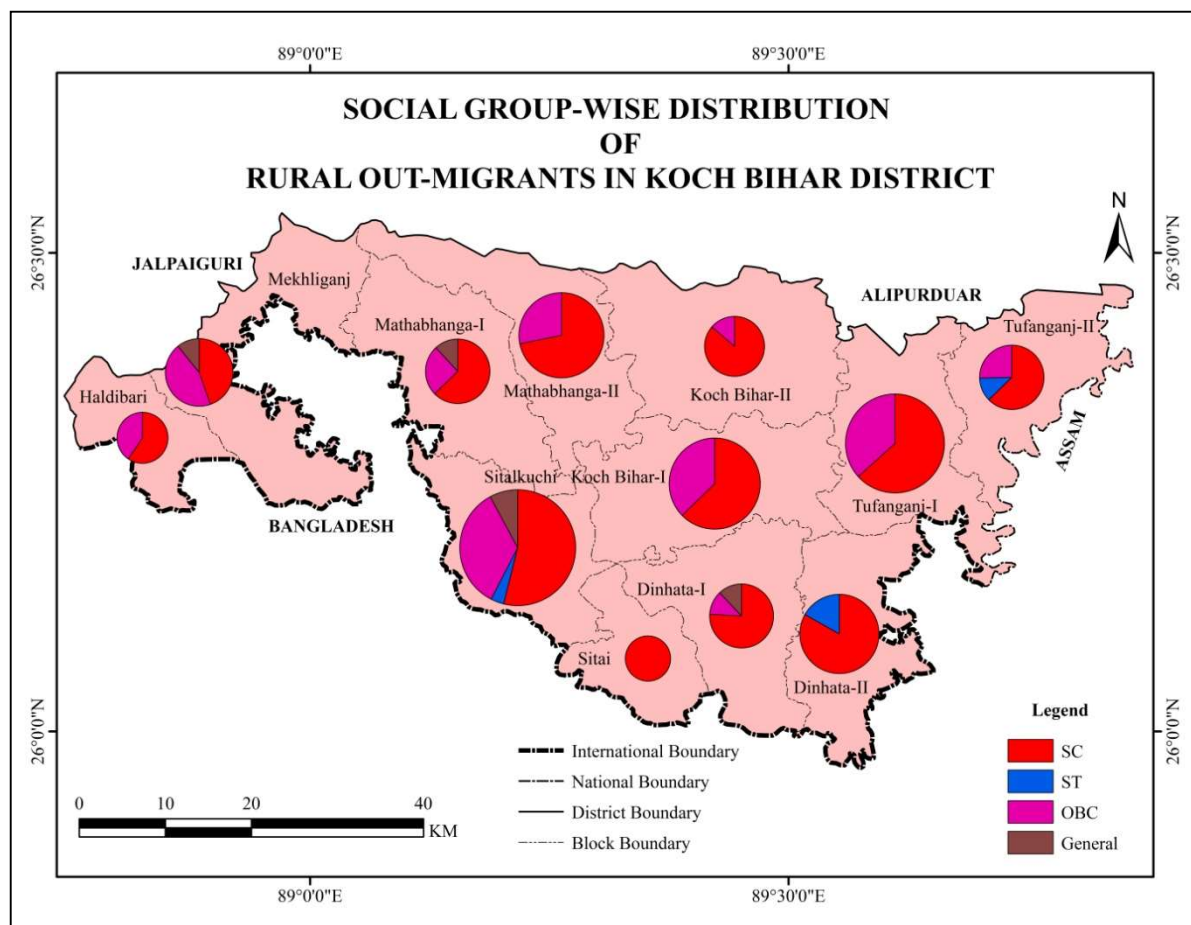
Map 3.8: Social Group-Wise Distribution of Rural Out-Migrants in Koch Bihar District

3.3.5. Choice of Destination of Rural Out-Migration

The choice of destination and individual decisions to move on depends on different factors like income, wages, household decisions etc. (Berger and Blomquist,1992; Fafchamps and Shilpi, 2008; Haug, 2008).So, different economic and other factors determining the out-migration choice of destination that has been studied by pre-migration status of out-migrants (Funkhouser, 2009). Mora and Taylor (2006) focused that 'migration is a selective process'. Selection of destination of out-migrants resulted from two processes; first one is the sorting of a large number of potential destinations of life and the second one is the selection of

destination from knowledge or experiences of relatively few places (Roseman, 1983). In this pretext the Field Study, 2017-2018 from rural areas of Koch Bihar district depicting that 42.6 percent of the out-migrants choices their destination to the outside of West Bengal while 36 percent of them are male and 6.6 percent of them are females. The figure 3.1 depicted that both the males and females of the district have chosen their destination to the urban areas of other state. Majority of them have expressed their views that they used to leave their native places with aspiration of getting maximize rate of wages in metropolitan cities like Mumbai, Jaipur, Delhi, Bangalore etc. of the major cities of outside of West Bengal.

Table 3.10: Source of Destination of Rural Out-Migrants from Koch Bihar District

Destination	Gender (%)		Total (%)
	Male	Female	
Rural areas of Koch Bihar district	11.0	1.5	12.5
Urban areas of Koch Bihar district	5.1	2.2	7.4
Rural areas of other districts	7.4	0.0	7.4
Urban areas of other districts	15.4	2.2	17.6
Rural areas of other state	12.5	0.0	12.5
Urban areas of other states	36.0	6.6	**42.6**
Total (N=272)	87.5	12.5	100.0

Source: Field Study, 2017-2018, Data have been computed by the researcher.

Table 3.11: Major Place of Destination Outside of West Bengal by the Rural Out-Migrants from Koch Bihar District

Destination	AP*	Karnataka	Delhi	Rajasthan	Kerala	MH**	Meghalaya
% of Rural Out-Migrants	8.6	12.1	14.7	22.4	6.9	28.4	6.9

*AP- Arunachal Pradesh, **MH- Maharashtra
Source: Field Study, 2017-2018,
Data have been computed by the researcher.

MAJOR PLACE OF DESTINATION IN OUTSIDE OF WEST BENGAL
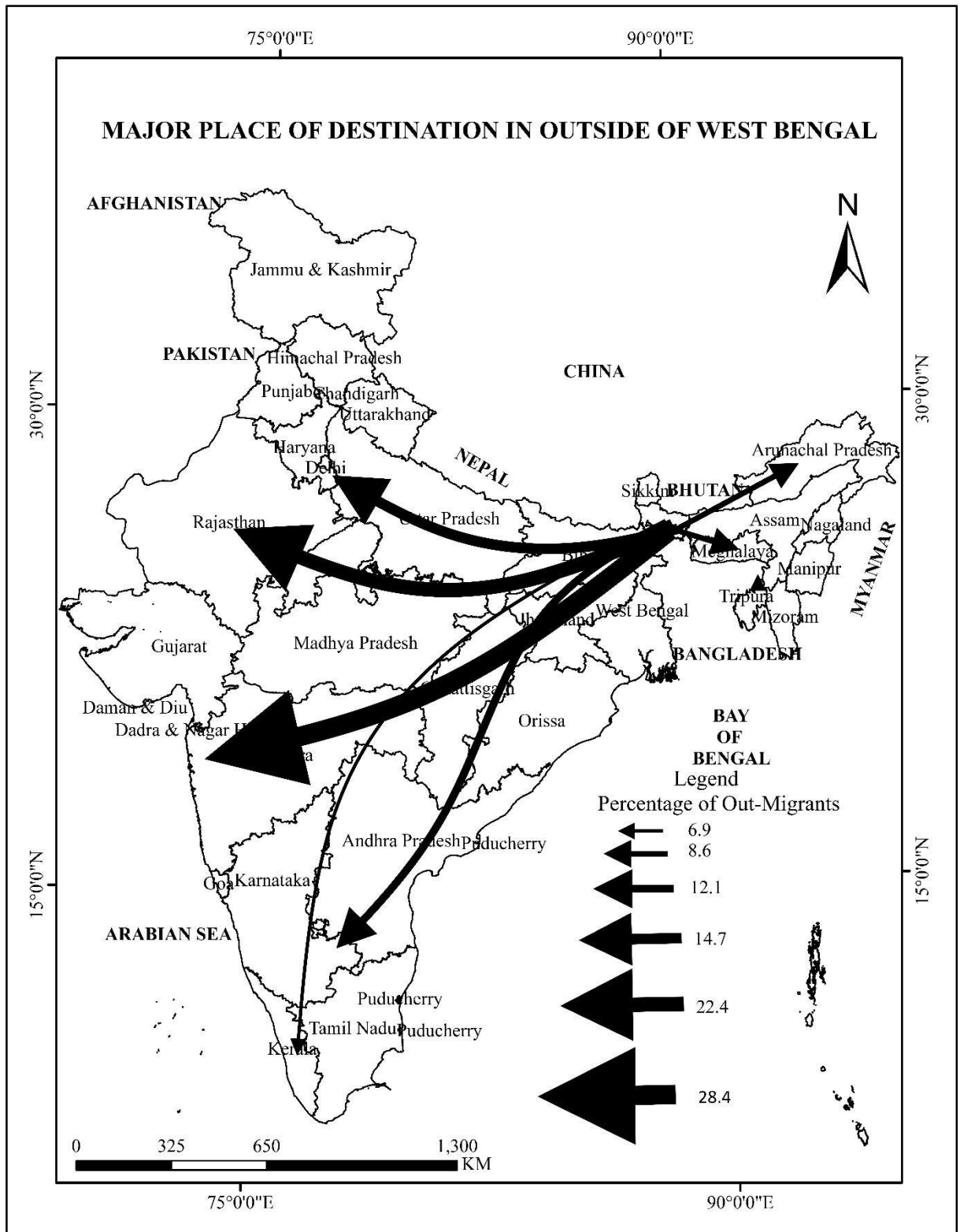
Map 3.9: Major Places of Destination in Outside of West Bengal

Figure 3.1: Choice of Destination of Rural Out-Migrants from Koch Bihar District
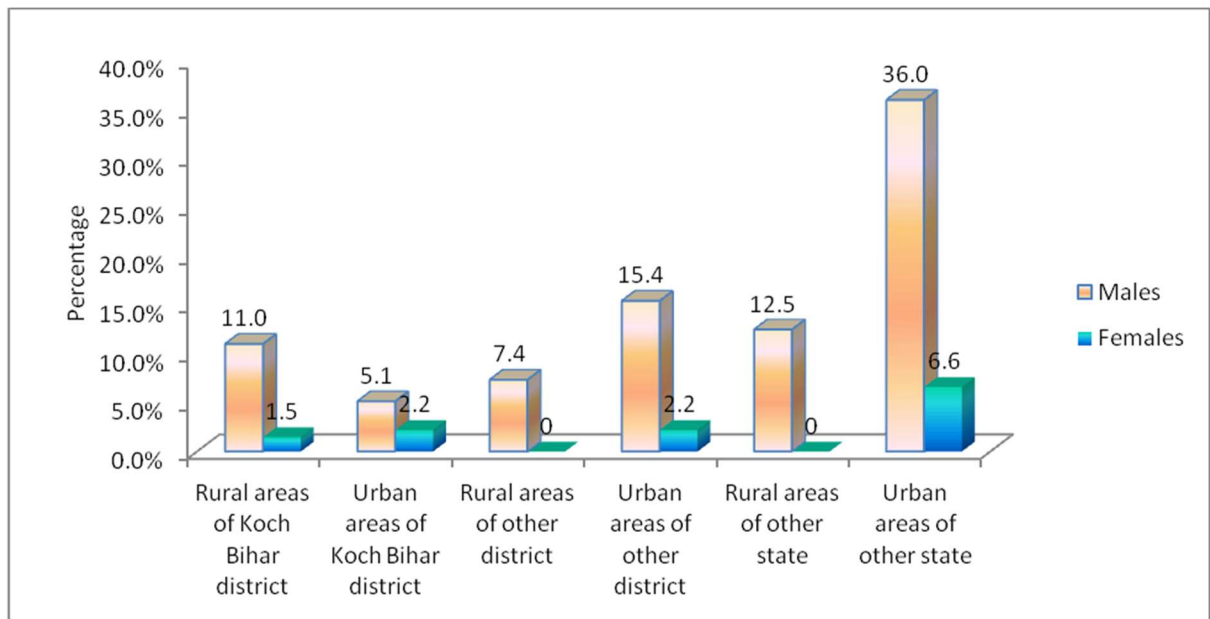
The table 3.11 reveals that 28.4 percent of the surveyed out-migrated respondents visited Mumbai followed by Jaipur (22.4%), Delhi (14.7%), Bengaluru (12.1%), Andhra Pradesh (8.6%), and both Kerala and Shilong 6.9 percent (map 3.19).

Table 3.12: Chi-Square Tests for Out-Migration Stream

Gender		Value	df	Sig.
Male	Pearson Chi-Square	467.408	55	.000
Female	Pearson Chi-Square	60.130	24	.000
Total	Pearson Chi-Square	514.265	55	.000

Source: Field Study, 2017-2018

Rural to urban areas of the other state reveals higher percent (42.6%) out-migration stream than others in Koch Bihar district. The table 3.10 showing the Chi-Square test which reveals there is a significant variation of migration stream among out-migrants and the majority of migrants have selected urban areas of other state from the district.

3.4. Conclusion:

In this concern the study of an overview that the rural-urban out-migration in Koch Bihar is higher than other streams while the rate of female out-migration is higher than the male out-migration due to marriage related reason. The Census of India revealed that the inter-district out-migration flow from Koch Bihar to Jalpaiguri district is dominated in the last decade (2001-2011) where majority of migrants are females. In this concern it is clear that majority of females are migrated due to marriage related reason which will discuss in the next chapter. The research also cleared that majority percentage of total female rural out-migrants from both SC and ST categories. But, in the present scenario in the district is showing the high rate of rural male out-migration towards the urban areas of the other state within the country. The case study concludes that the rate of male out-migration beyond the country i.e., the outside of the state is higher than inter-state out-migration.

1. In India, nearly 74 percent out-migrants from rural areas were migrated within the same state whereas 45 percent of within the same district and nearly 24 percent out-migrants visited another state.

2. The district Koch Bihar comprises overall 6.15 percent out-migration while 4.01 percent was males and 8.42 percent was female's out-migration rate are recorded to total district population as per the Census of India, 2011.

3. Koch Bihar district having overall 3.42 percent of Scheduled Castes and 12.84 percent of Scheduled Tribe out-migrants from the respective total population in the district. The result also shows that 1.52 percent of males and 5.44 percent of SCs are migrated to district total SC population in Koch Bihar district.

4. The districts from the North Bengal region namely Koch Bihar, Maldah and Uttar Dinajpur districts are recognized as positive balance of rural out-migration in West Bengal. Among the Southern district, Nadia and Haora having positive of balance migration. The calculation from the balance of male rural out-migration, the Koch Bihar district (+2.06) having the highest balance of male out-migration than the other districts of West Bengal.

5. The Census focused that 86.97 percent of total rural out-migrants are visited to Jalpaiguri as well as Siliguri region while 76.29 percent of them are males and 90.32 percent of them are female's out-migrants to total rural out-migrants from Koch Bihar district.

6. The result of the work depicting that the CD block namely Sitalkuchi (19.1%) having the highest percentage of rural out-migrants followed by Tufanganj-I (14.0%), Koch Bihar-I (11.1%), Mathabhanga-II (10.3%) and so on. The highest rate of male out-migration has observed at Sitalkuchi block (16.9%) while the CD block Dinhata-I, Sitalkuchi and Tufanganj-II block having 2.2 percent of female out-migration

7. Both the males (36.0 %) and females (6.6 %) of the Koch Bihar district have chosen their destination to the urban areas of other state.

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CHAPTER-4

NATURE AND SOCIO-ECONOMIC CHARACTERISTICS OF MIGRANT AND NON-MIGRANT HOUSEHOLDS

CHAPTER-4

NATURE AND SOCIO-ECONOMIC CHARACTERISTICS OF MIGRANT AND NON-MIGRANT HOUSEHOLDS

4.1. Introduction:

In population studies, the study of migration is significant, indicating peoples' movement from one place to another, but it also affects the socio-economic condition. Migration is the relocation of any individual or group and their various natures.The individual characteristics of people give the idea about the peoples involved in the process of migration. Hossain's (2001) study, the characteristics of households engaged in migration, provides an idea about the migration process's selectivity. It gives an idea about the peoples' clear understanding of why few want to participate in migration, and remaining households are not involved. Smith (1941) focused that the discussion of characteristics of migrants was most significant, which must attack the problem in the selection of migration.

Chandrasekhar and Agrawal (2015) briefed about migration, which shows temporary or short-term migrants' characteristics. They found the job is the crucial determinant of the planning to migrate, and the study identified the pull factors of migrants related to agriculture, manufacturing, construction, and service sector. Different studies show that households with no land or farmers have a high propensity to the out-migration (NCRL Report, 1991). Other studies by Rogaly et al. (2001); Haberfeld et al. (1999) focused on the propensity of out-migration among those who have pursued higher education and who do not have. However,migration is also "characterized by enormous economic and social diversity spanning socio-economic variables such as caste, landholding size, age, sex, education, family size and composition, activity, consumption levels and more."

This chapter aims to analyse the persons' differential determinants, which indicates migrant and non-migrant persons by their selectivity of migrants, nature and destination of migration. The selectivity of out-migration studied gender, age, marital status, education, occupation, etc., of the migrants. It is challenging to study for comparing determinants between out-migrant and non-migrant households. Various household characteristics like education, occupation, cultivate the land, family size; have been taken to comparative study intheir migration status. The study also identifies the variables that influence the decision of migration among the households.

4.2. Selectivity of Migration:

In this portion, the researcher has studied socio-economic variables for understanding the characteristics comparisonamong migrant and non-migrant respondents in Koch Bihar district.

4.2.1. Age-Sex Distribution of Population

It is essential to study the population's distribution by age and sex. Table 4.1 shows that 86.4 percent were male, and the remaining 13.6 percent were female. Moreover, out of this, 68.3 percent were overall migrant respondents, and 31.7 percent were non-migrants. The majority of the migrant respondents were male and only 8 percent were female migrant respondents in Koch Bihar district.

Table 4.1: Distribution Age-Sex of Migrant and Non-Migrant Respondents

Migration Status				Age Group (in Years)			Total
				0-14	15-65	>65	
Non-migrant	Gender	Male	Number	0	100	6	106
			% of Total	0	79.4	4.8	84.1
		Female	Number	0	20	0	20
			% of Total	0	15.9	0.0	15.9
	Total		Number	0	120	6	126
			% of Total	0	95.2	4.8	100.0
Migrant	Gender	Male	Number	1	235	2	238
			% of Total	.4	86.4	.7	87.5
		Female	Number	2	32	0	34
			% of Total	.7	11.8	0.0	12.5
	Total		Number	3	267	2	272
			% of Total	1.1	98.2	.7	100.0
Total	Gender	Male	Number	1	335	8	344
			% of Total	.3	84.2	2.0	86.4
		Female	Number	2	52	0	54
			% of Total	.5	13.1	0.0	13.6
	Total		Number	3	387	8	398
			% of Total	.8	97.2	2.0	100.0

Source: Field Study, 2017-2018

The above table clarifies that 97.2 percent of total respondents belong from dependent age group populations while 98.2 percent were dependent migrant respondents. The study area's selected hypothesis is "Rural out-migration in the district is age and gender selective,"which has been proved by the chi-square test (table 4.2). The calculated Chi-square test value for the migrant population is 8.398 indicating the district rural out-migration is dominated by the male population in the workingpopulation (15-65 years).

Table 4.2: Association Test for the Distribution Age-Sex of Migrant and Non-Migrant Respondents

Migration status		Value	df	Sig.
Non-migrant	Pearson Chi-Square	1.189	1	.276
	N of Valid Cases	126		
Migrant	Pearson Chi-Square	8.398	2	.015
	N of Valid Cases	271	2	
Total	Pearson Chi-Square	8.474	2	.014
	N of Valid Cases	398		

Table 4.3: Percentage Distribution of Respondents Migration Status by Sex

Sex		Migration status		Total
		Non-migrant	Migrant	
Male	Number	106	238	344
	% of Total	26.6	59.8	86.4
Female	Number	20	34	54
	% of Total	5.0	8.5	13.6
Total	Number	126	272	398
	% of Total	31.7	68.3	100.0

Source: Field Study, 2017-2018

Out of 86.4 percent of the male population belongs to 15 to 65 years, and the remaining 11.8 percent were from the female population. Moreover, the entire Koch Bihar district depicts most surveyed respondents from the age group for more than 15-65 years (table 4.2).

Table 4.4: Age Group-Wise Percentage Distribution of Migrant Respondents in Koch Bihar District

Block	Age Group in Years			Total
	0-14	15-65	>65	
Dinhata-I	0.0	5.9	0.0	5.9
Dinhata-II	0.0	8.8	0.0	8.8
Haldibari	0.0	3.7	0.0	3.7
Koch Bihar-I	.7%	11.0	0.0	11.8
Koch Bihar-II	.4%	4.8	0.0	5.1
Mathabhanga-I	0.0	5.1	.7%	5.9
Mathabhanga-II	0.0	10.3	0.0	10.3
Mekhliganj	0.0	6.6	0.0	6.6
Sitai	0.0	2.9	0.0	2.9
Sitalkuchi	0.0	19.1	0.0	19.1
Tufanganj-I	0.0	14.0	0.0	14.0
Tufanganj-II	0.0	5.9	0.0	5.9
Total	1.1	98.2	.7	100.0

Source: Field Study, 2017-2018

Table 4.5: Age Group-Wise Percentage Distribution of Non-Migrant Respondents in Koch Bihar District

Block	Age Group in Years			Total
	0-14	15-65	>65	
Dinhata-I	0.0	6.3	0.0	6.3
Koch Bihar-I	0.0	7.9	0.0	7.9
Koch Bihar-II	0.0	15.9	0.0	15.9
Mathabhanga-I	0.0	3.2	0.0	3.2
Mathabhanga-II	0.0	4.8	0.0	4.8
Mekhliganj	0.0	4.8	0.0	4.8
Sitai	0.0	11.1	1.6	12.7
Sitalkuchi	0.0	30.2	0.0	30.2
Tufanganj-I	0.0	9.5	0.0	9.5
Tufanganj-II	0.0	1.6	3.2	4.8
Block	0.0	95.2	4.8	100.0

Source: Field Study, 2017-2018

The above table 4.4 depicts that out of all CD block, Sitalkuchi (19.1%) having higher percent of out-migrant respondents due to the unemployment and unavailability of job opportunities whose age lies less within 15 to 65 years. Table 4.5 also depicted overall 95.2 percent of the non-migrant respondent's ages were 15 to 65 years.

4.2.2. Distribution of Social Groups: In Koch Bihar district, all the ethnic communities have been categorised into four social groups, namely Scheduled Caste (SC), Scheduled Tribe (ST), Other Backward Classes (OBC), and the respondents who are not included in these three categories are called General Caste.

Table 4.6: Percentage Distribution of Social Groups by their Migration Status

Social Groups		Migration status		Total
		Non-migrant	Migrant	
SC	Number	76	178	254
	% of Total	19.1	44.7	63.8
ST	Number	6	8	14
	% of Total	1.5	2.0	3.5
OBC	Number	28	76	104
	% of Total	7.0	19.1	26.1
General	Number	16	10	26
	% of Total	4.0	2.5	6.5
Total	Number	126	272	398
	% of Total	31.7	68.3	100.0

Source: Field Study, 2017-2018

The table 4.6 shows the evidence that the Scheduled Caste constitutes the highest percentage (63.8%) of the surveyed respondents' share among the entire social groups. The Scheduled Caste comprising 44.7 percent of them are migrants, and 19.1 percentare not migrant categories. Koch Bihar district comprises 50.01 percent of the Scheduled Caste (SC) population in India, indicating this district has the majority percent of India's SC population (Census of India, 2011). The second-largest social group of the surveyed respondent is other Backward Classes (OBC), which comprises 19.1 percentis migrants, and sevenpercent of them are not migrants. In this category, the minority peoples from Muslims are included in this regard. Only 3.5 percent of the surveyed respondents belong from Scheduled Tribe (ST) groups, whereas 2.5 percent of them are migrants and 1.5 percent are non-migrant.

Table 4.7: Age Group-wise Percentage Distribution of Different Social Groups

Migration status			Social Groups				Total
			SC (%)	ST(%)	OBC(%)	General(%)	
Non-migrant	Age Group (Years)	15-65	58.7	3.2	22.2	11.1	95.2
		>65	1.6	1.6		1.6	4.8
	Total		60.3	4.8	22.2	12.7	100.0
Migrant	Age Group (Yeas)	0-14	.4		.7		1.1
		15-65	64.3	2.9	27.2	3.7	98.2
		>65	.7				.7
	Total		65.4	2.9	27.9	3.7	100.0
Total	Age Group (Years)	0-14	.3		.5		.8
		15-65	62.6	3.0	25.6	6.0	97.2
		>65	1.0	.5		.5	2.0
	Total		63.8	3.5	26.1	6.5	100.0

Source: Field Study, 2017-2018

Table 4.8: Chi-Square Test for Association Different Social Groups among Migrant and Non-Migrant Respondents

Migration status	Test	Value	df	Sig.
Non-migrant	Chi-Square	15.07	3	.002
	N	126		
Migrant	Chi-Square	3.34	6	.764
	N	272		
Total	Chi-Square	19.90	6	.003
	N	398		

The Chi-square test identified there is a significant variationof population distributionamong different social groups in non-migrant respondents in Koch Bihar district (table 4.8).

As per the surveyed data, in the district, 97.2 percent of the respondents are found in the age group less than 15-64 years old, where 62.6 percent are SC, 3 percent are ST, and 25.6 percent are OBC. The highest percentage of out-migrant SC respondents (65.4%) belongs from the age group 15-65 years, where OBC has 27.9 percent share in the all-age groups (table 4.7).

Table 4.9: Social Group-Wise Percentage Distribution of Migrant Respondents in Koch Bihar District

Block	Social Groups (%)				Total (%)
	SC	ST	OBC	General	
Dinhata-I	6.7	0.0	2.6	20.0	5.9
Dinhata-II	11.2	50.0	0.0	0.0	8.8
Haldibari	3.4	0.0	5.3	0.0	3.7
Koch Bihar-I	11.2	0.0	15.8	0.0	11.8
Koch Bihar-II	6.7	0.0	2.6	0.0	5.1
Mathabhanga-I	5.6	0.0	5.3	20.0	5.9
Mathabhanga-II	11.2	0.0	10.5	0.0	10.3
Mekhliganj	4.5	0.0	10.5	20.0	6.6
Sitai	4.5	0.0	0.0	0.0	2.9
Sitalkuchi	15.7	25.0	23.7	40.0	19.1
Tufanganj-I	13.5	0.0	18.4	0.0	14.0
Tufanganj-II	5.6	25.0	5.3	0.0	5.9
Total	100	100	100	100	100

Source: Field Study, 2017-2018

Table 4.9 depicts out of district total SC migrant respondents' majority found at Sitalkuchi block (15.7%), and out of all ST respondents, 50 percent are found at Dinhata-II block. Similarly, the majority of the migrated OBC respondents belong to Sitalkuchi (18.4%).

The following table 4.10 indicating the percentage distribution of different social groups within the blocks. Out of all, CDblocks Sitai having all respondents from the Scheduled Caste (SC). The following table and figure clearly show some blocks having all categories, and some did not have all social groups. Dinhata-II indicating 83.3percent of SC, and the remaining 16.7 percent are ST; there is no OBC and General category of migrated respondents.

Table 4.10: Percentage Distribution of Social Groups of Migrant Respondents within the Blocks of Koch Bihar District

Block	Social Groups (%)				Total (%)
	SC	ST	OBC	General	
Dinhata-I	75.0	0.0	12.5	12.5	100
Dinhata-II	83.3	16.7	0.0	0.0	100
Haldibari	60.0	0.0	40.0	0.0	100
Koch Bihar-I	62.5	0.0	37.5	0.0	100
Koch Bihar-II	85.7	0.0	14.3	0.0	100
Mathabhanga-I	62.5	0.0	25.0	12.5	100
Mathabhanga-II	71.4	0.0	28.6	0.0	100
Mekhliganj	44.4	0.0	44.4	11.1	100
Sitai	100.0	0.0	0.0	0.0	100
Sitalkuchi	53.8	3.8	34.6	7.7	100
Tufanganj-I	63.2	0.0	36.8	0.0	100
Tufanganj-II	62.5	12.5	25.0	0.0	100
District	65.4	2.9	27.9	3.7	100

Source: Field Study, 2017-2018.

Figure 4.1 reveals that the Sitai block indicating all the surveyed migrant respondents are in Scheduled Caste (SC) category. The CD block, namely Dinhata-II, Sitalkuchi, and Tufanganj-II is having Scheduled Tribe out-migrant respondents. The current study reveals out of all migrant respondents, 65.4 percent are Scheduled Caste (SC), 2.9 percent are Scheduled Tribe (ST), 27.9 percent are Other Backward Class (OBC), and the rest of 3.7 percent are other caste or General Caste respondents (table 4.10).

Figure 4.1: Percentage Distribution of Social Groups of Migrant Respondents within the Blocks of Koch Bihar District
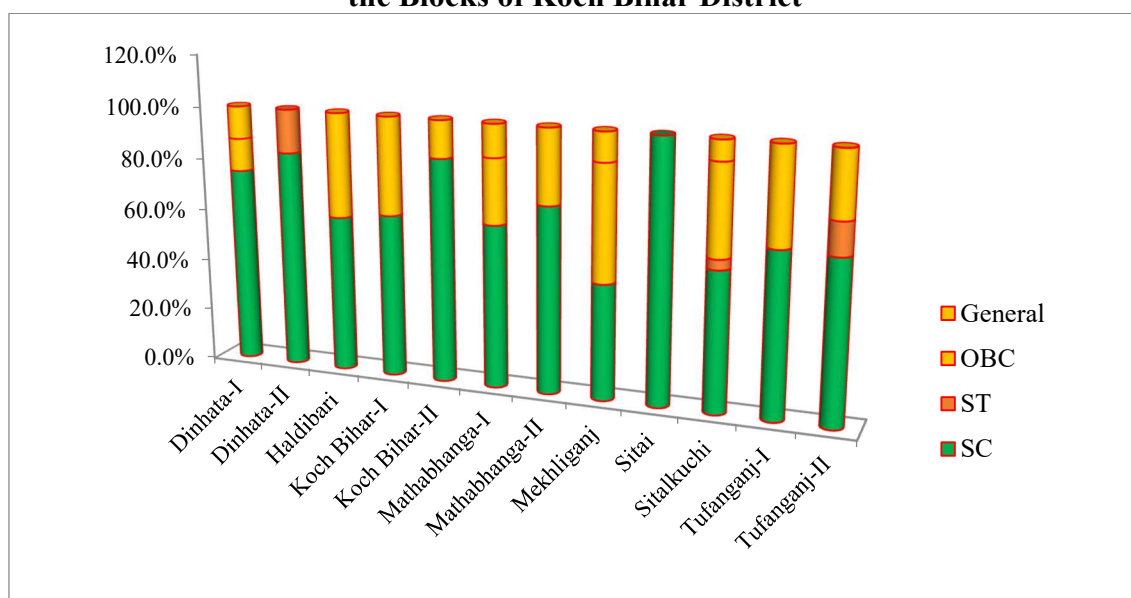
Table 4.11: Social Group-Wise Percentage Distribution of Non-Migrant Respondents in Koch Bihar District

Block	Social Groups (%)				Total (%)
	SC	ST	OBC	General	
Dinhata-I	7.9	0.0	0.0	12.5	6.3
Koch Bihar-I	5.3	33.3	14.3	0.0	7.9
Koch Bihar-II	10.5	0.0	21.4	37.5	15.9
Mathabhanga-I	5.3	0.0	0.0	0.0	3.2
Mathabhanga-II	7.9	0.0	0.0	0.0	4.8
Mekhliganj	5.3	33.3	0.0	0.0	4.8
Sitai	13.2	0.0	7.1	25.0	12.7
Sitalkuchi	28.9	0.0	42.9	25.0	30.2
Tufanganj-I	10.5	0.0	14.3	0.0	9.5
Tufanganj-II	5.3	33.3	0.0	0.0	4.8
Total	100	100	100	100	100

Source: Field Study, 2017-2018

The above table 4.11 reveals the block-wise percentage of different social groups of non-migrant respondents in Koch Bihar district. The table gives most SC non-migrants from Sitalkuchi, whereas equal percent of STs are found from Koch Bihar-I, Mekhliganj, and Tufanganj-II. Out of all OBC and General Category non-migrants' majority of them are observed from Sitalkuchi (42.9%) and Koch Bihar-II (37.5%).

Table 4.12: Percentage Distribution of Social Groups of Non-Migrant Respondents within the Blocks of Koch Bihar District

Block	Social Groups (%)				Total (%)
	SC	ST	OBC	General	
Dinhata-I	75.0	0.0	0.0	25.0	100.0
Koch Bihar-I	40.0	20.0	40.0	0.0	100.0
Koch Bihar-II	40.0	0.0	30.0	30.0	100.0
Mathabhanga-I	100.0	0.0	0.0	0.0	100.0
Mathabhanga-II	100.0	0.0	0.0	0.0	100.0
Mekhliganj	66.7	33.3	0.0	0.0	100.0
Sitai	62.5	0.0	12.5	25.0	100.0
Sitalkuchi	57.9	0.0	31.6	10.5	100.0
Tufanganj-I	66.7	0.0	33.3	0.0	100.0
Tufanganj-II	66.7	33.3	0.0	0.0	100.0
District	60.3	4.8	22.2	12.7	100.0

Source: Field Survey 2017-2018.

Figure 4.2: Distribution of Social Groups of Non-Migrant Respondents within the Blocks of Koch Bihar District
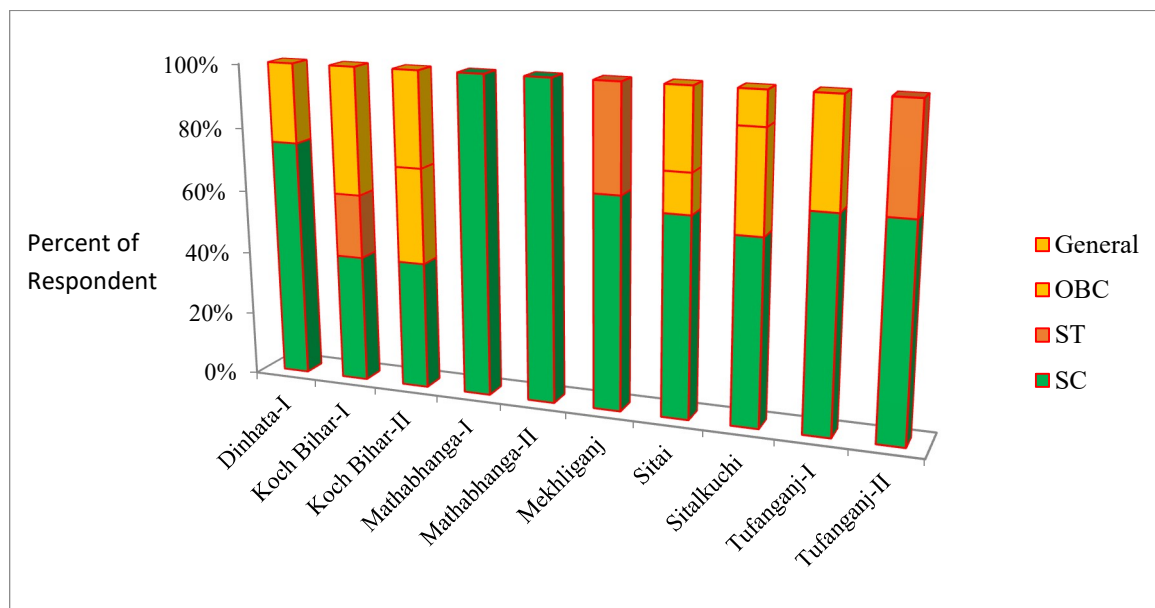
4.2.3. Marital Status

According to the Census, the marital status has been categorised based on whether one was married, never married, and widowed. A person is said to be married if he or she has never been married at any time before. A currently married person is one whose marriage, whether for the first time or any other time, subsists at enumeration with the spouse living. A person who is identified by the custom or society as they are living with his/her spouse is classified as married. A widowed person is one whose wife or husband is dead. According to the current study, out of all migrant (68.3%) respondents, 54.3 percent are married, and 13.6 percent are unmarried, and the rest are widowed. Moreover, out of all non-migrants (31.7%), 25.6 percent are married, and 5 percent are unmarried respondents (table 4.13).

Table 4.13: Percentage Distribution of Marital Status of Migrant and Non-migrant Respondents

Migration Status	Marital status (%)			Total (%)
	Married	Unmarried	Widowed	
Non-migrant	25.6	5.0	1.0	31.7
Migrant	54.3	13.6	.5	68.3
% of Total	79.9	18.6	1.5	100.0

Source: Field Study, 2017-2018

Table 4.14: Gender-Wise Marital Status of Migrant and Non-Migrant Respondents

Gender	Migration Status	Marital status (%)			Total (%)
		Married	Unmarried	Widowed	
Male	Non-migrant	26.2	4.7	0.0	30.8
	Migrant	55.8	13.4	0.0	69.2
	% of Total	82.0	18.0	0.0	100.0
Female	Non-migrant	22.2	7.4	7.4	37.0
	Migrant	44.4	14.8	3.7	63.0
	% of Total	66.7	22.2	11.1	100.0

Source: Field Study, 2017-2018

The following figure 4.3 depicts all surveyed respondents' majority 54.3 percent of migrant respondents are married, and 25.6 percent of non-migrants are married. Out of 18.6 percent of them, 13.6 percent are migrants and 5 percent are non-migrant.

Figure 4.3: Distribution of Marital Status of Migrant and Non-Migrant Respondents
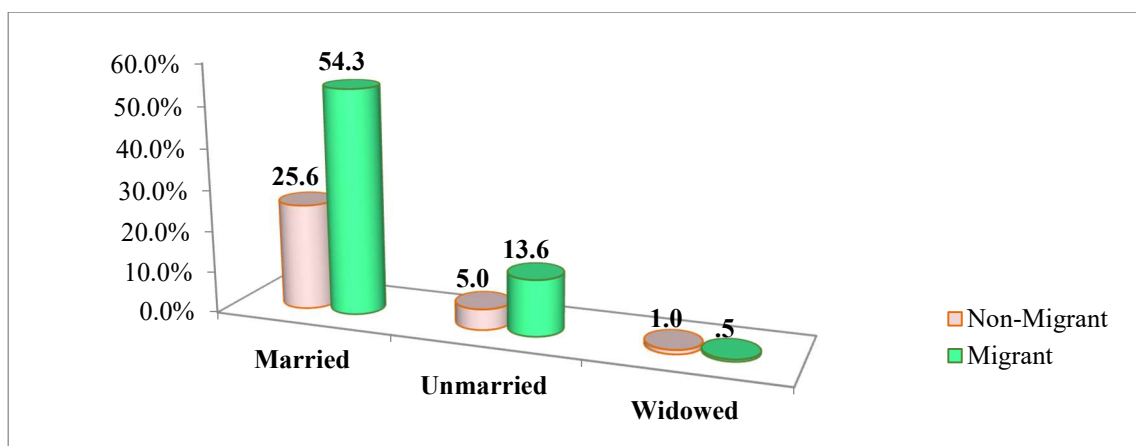
Table 4.14 depicts all migrant male (69.2%) respondents 55.8 percent are married, and 13.4 percent are unmarried. Moreover, out of all non-migrant male (30.8%) respondents, 26.2 percent are married, and 4.7 percent are unmarried. Similarly, out of all female migrants (63%), 44.4 percent are married, 14.8 percent are unmarried, and the rest of the 3.7 percent are widowed persons. Moreover, there are 22.2 percent of female non-migrants found in the district.

Table 4.15 indicating the majority percent of married migrated respondents from Sitalkuchi (18.5%) followed by Tufanganj-I (13.9%), Koch Bihar-I (13%), and Dinhata-II (10.2%), and so on. Both the CDblocks Sitalkuchi and Mathabhanga-II depicting 22.2 percent migrated respondents are unmarried. The figure indicating only the Tufanganj-I block depicting some migrated respondents are widowed category. The following table 4.16 provides the CD block Haldbari and Mekhliganj, having all migrated respondents are

married, and also indicating that 50 percent are unmarried migrated respondents found from the CD block Sitai.

Table 4.15: Block-Wise Percentage Distribution of Marital Status of Migrant Respondents

Block	Marital Status (%)		
	Married	Unmarried	Widowed
Dinhata-I	6.5	3.7	0.0
Dinhata-II	10.2	3.7	0.0
Haldibari	4.6	0.0	0.0
Koch Bihar-I	13.0	7.4	0.0
Koch Bihar-II	4.6	7.4	0.0
Mathabhanga-I	4.6	11.1	0.0
Mathabhanga-II	7.4	22.2	0.0
Mekhliganj	8.3	0.0	0.0
Sitai	1.9	7.4	0.0
Sitalkuchi	18.5	22.2	0.0
Tufanganj-I	13.9	11.1	100.0
Tufanganj-II	6.5	3.7	0.0
Total	100	100	100.0

Source: Field Study, 2017-2018

Table 4.16: Percentage Distribution of Marital Status of Migrant Respondents within the Blocks

Block	Marital Status (%)			Total (%)
	Married	Unmarried	Widowed	
Dinhata-I	87.5	12.5	0.0	100
Dinhata-II	91.7	8.3	0.0	100
Haldibari	100.0	0.0	0.0	100
Koch Bihar-I	87.5	12.5	0.0	100
Koch Bihar-II	71.4	28.6	0.0	100
Mathabhanga-I	62.5	37.5	0.0	100
Mathabhanga-II	57.1	42.9	0.0	100
Mekhliganj	100.0	0.0	0.0	100
Sitai	50.0	50.	0.0	100
Sitalkuchi	76.9	23.1	0.0	100
Tufanganj-I	78.9	15.8	5.3	100
Tufanganj-II	87.5	12.5	0.0	100
Total	79.4	19.9	.7	100

Source: Field Study, 2017-2018

Figure 4.4: Percentage Distribution of Marital Status of Migrant Respondents within the Blocks
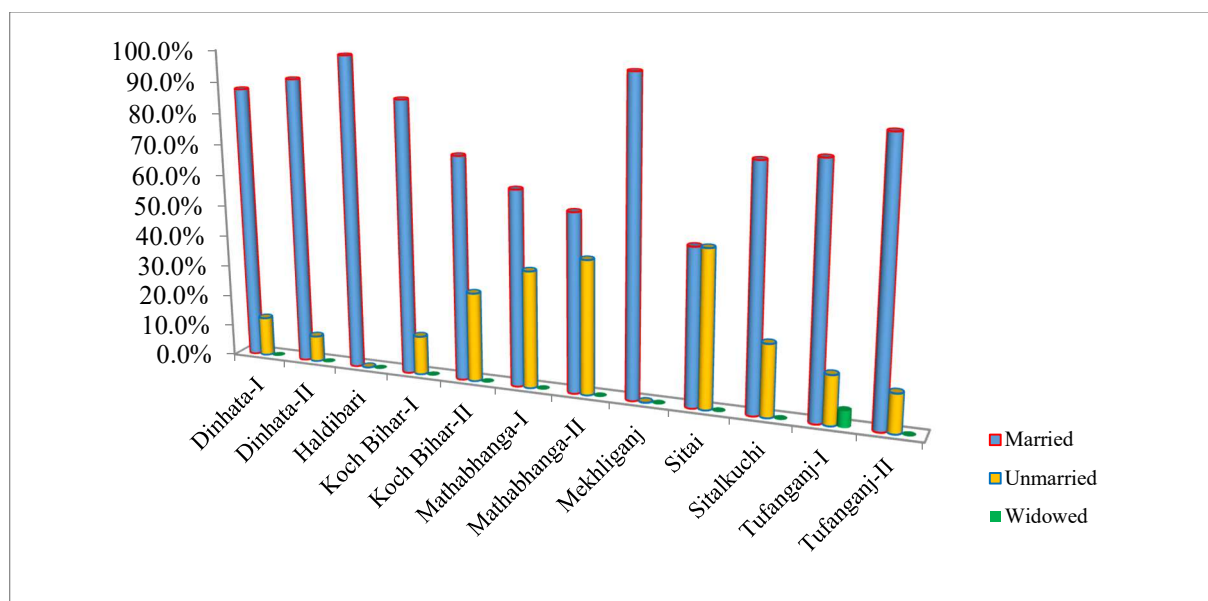
Table 4.17: Block-Wise Percentage Distribution of Marital Status of Non-Migrant Respondents

Block	Marital Status (%)			Total (%)
	Married	Unmarried	Widowed	
Dinhata-I	5.9	10.0	0.0%	6.3
Koch Bihar-I	5.9	10.0	50.0	7.9
Koch Bihar-II	15.7	20.0	0.0	15.9
Mathabhanga-I	2.0	10.0	0.0	3.2
Mathabhanga-II	5.9	0.0	0.0	4.8
Mekhliganj	5.9	0.0	0.0	4.8
Sitai	11.8	20.0	0.0	12.7
Sitalkuchi	29.4	30.0	50.0	30.2
Tufanganj-I	11.8	0.0	0.0	9.5
Tufanganj-II	5.9	0.0	0.0	4.8
% within Marital Status	100.0	100.0	100.0	100.0

Source: Field Study, 2017-2018

Table 4.18: Block-Wise Percentage Distribution of Marital Status of Non-Migrant Respondents

Block	Marital Status (%)			Total (%)
	Married	Unmarried	Widowed	
Dinhata-I	75.0	25.0	0.0	100
Koch Bihar-I	60.0	20.0	20.0	100
Koch Bihar-II	80.0	20.0	0.0	100
Mathabhanga-I	50.0	50.0	0.0	100
Mathabhanga-II	100.0	0.0	0.0	100
Mekhliganj	100.0	0.0	0.0	100
Sitai	75.0	25.0	0.0	100
Sitalkuchi	78.9	15.8	5.3	100
Tufanganj-I	100.0	0.0	0.0	100
Tufanganj-II	100.0	0.0	0.0	100
Total	81.0	15.9	3.2	100

Source: Field Study, 2017-2018

The marital status is an essential demographic indicator with many socio-economic parts and reveals conjugal relationships, parenthoods, and property rights (Debnath, 2003). Of all twelve CD blocks,most non-migrant married respondents are found from Sitalkuchi (29.4%) block, whereas 2 percent at Mathabhanga-I. Similarly, 30 percent unmarried and 50 percent widowed persons are found from Sitalkuchi block. Table 4.18 and figure 4.5 also indicating Mathabhanga-II, Mekhliganj, Tufanganj-I, and Tufanganj-II, all the non-migrated respondents, are married. So, the study clears both migrated and non-migrated married respondents are the primary category.

Figure 4.5: Block-Wise Percentage Distribution of Marital Status of Non-Migrant Respondents
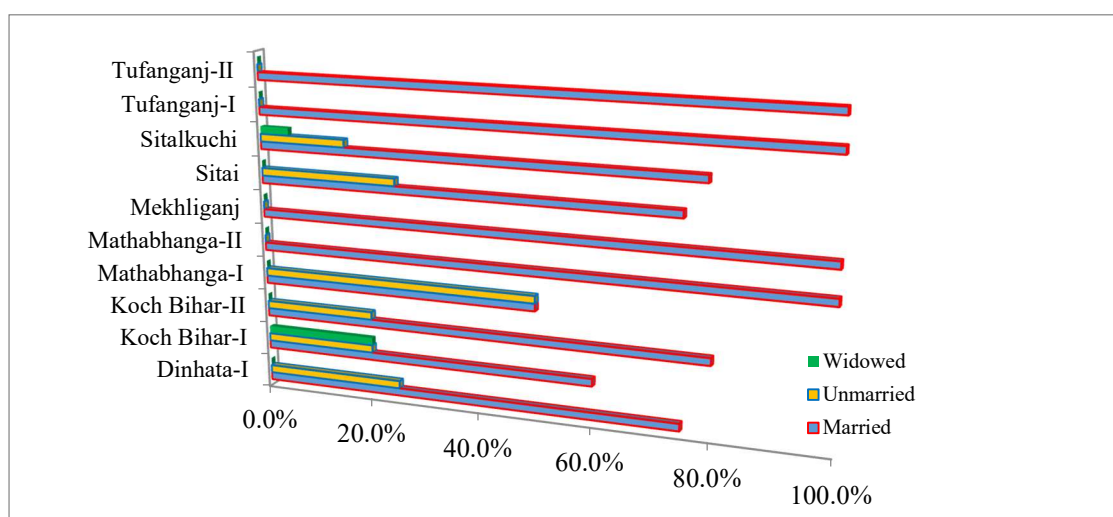
4.2.4. Religion

Religious belief has an essential role in studying migrant and non-migrant populations in Koch Bihar district. From the following table 4.19, we found that out of all surveyed respondents, 89.9 percent are Hindu, and 10.1 percent are Muslim. Out of this, 68.3 percent are Hindu migrant respondents, and 28.1 percent are non-migrant respondents. Out of all surveyed respondents, 10.1 percent of Muslimreligion, 6.5 percent of respondent is out-migrant and 3.5 percentis non-migrant. If we consider these percent as religion-wise, we found that within the Hindu religion, overall, 61.8 percent respondents are migrants and 28.1 percent are non-migrant. Similarly, within the Muslims, 6.5 percent are migrants, and 3.5 percent are non-migrants (table 4.19). Figure 4.5 depicts, out of all migrants, 90.4 percent are Hindu, and 9.6 percent are Muslim religion. Similarly, out of all non-migrants, 88.9 percent are Hindu, and 11.1 percent are Muslim.

Table 4.19: Percentage Distribution of Religion of Migrant and Non-Migrant Respondents

Religion	Migration Status		Total	Migration Status		Total
	Non-migrant	Migrant		Non-migrant	Migrant	
Muslim	3.5	6.5	10.1	11.1	9.6	10.1
Hinduism	28.1	61.8	89.9	88.9	90.4	89.9
Total	31.7	68.3	100.0	100.0	100.0	100.0

Source: Field Study, 2017-2018

Figure 4.6: Percentage Distribution of Religion of Migrant and Non-Migrant Respondents
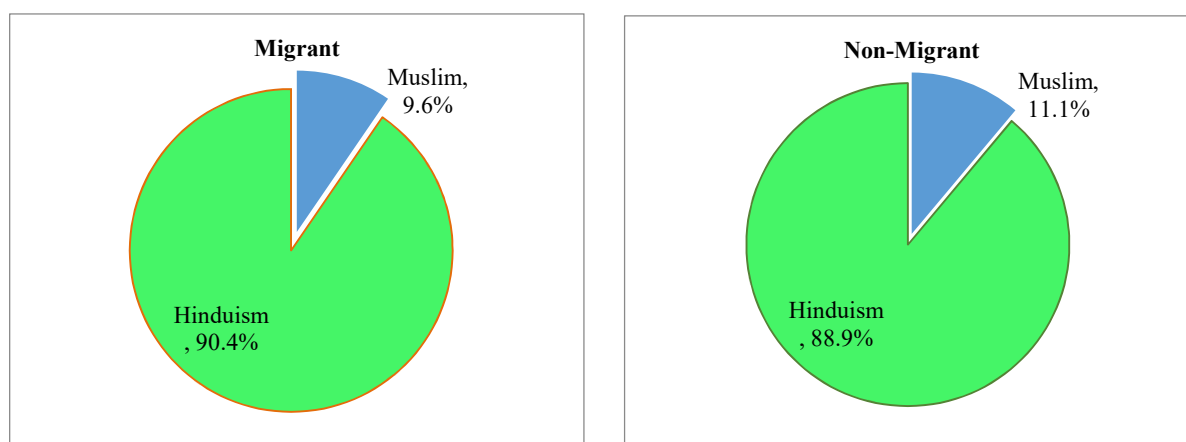
4.2.5. Household Size

The household size is an essential determinant of the socio-economic condition of migrants and non-migrant respondents. "A household is a group where some persons live together and take their meals from the same kitchen" (Census of India, 2001). The following table provides out of all migrant respondents (31.7%), 14.1 percent of the respondents' families having 3 to 5 family members, whereas 29.6 percent out of all non-migrant respondents (68.3%). So, it is clear from the overall migrant respondents 43.4 percent having 3 to 5 family members, 40.2 percent having less than 3 family members, and 16.1 percent having more than 5 members in a family. Similarly, in non-migrant respondents, most (44.4%) have 3 persons in a family (table 4.20).

Table 4.20: Percentage Distribution of Household Size of Migrant and Non-migrant Respondents

Size of Household (number)	Migration Status (%)		Total (%)	Migration Status (%)		Total (%)
	Non-migrant	Migrant		Non-migrant	Migrant	
<3	11.6	28.6	40.2	36.5	41.9	40.2
3-5	14.1	29.6	43.7	44.4	43.4	43.7
>5	6.0	10.1	16.1	19.0	14.7	16.1
Total	31.7	68.3	100.0	100.0	100.0	100.0

Source: Field Study, 2017-2018.

Figure 4.7: Household Size of Migrant and Non-Migrant Respondents

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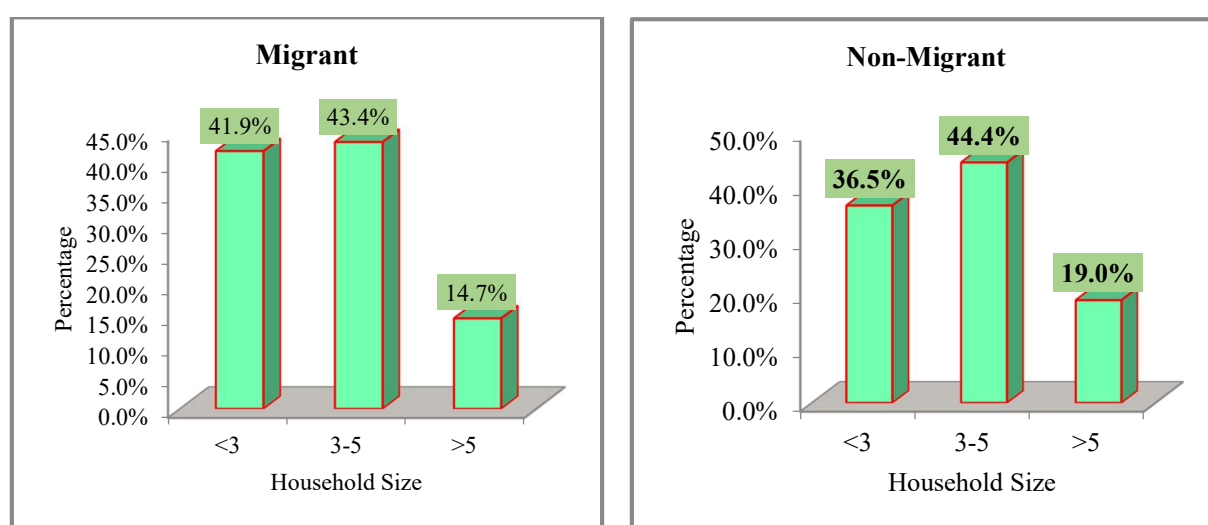
4.2.6. Education

The educational level refers to the highest educational level attained by a person on the date of reference. Browne (2017) studied that education is a driver for migration selectivity and has a significant role in migration decisions. The report found that "migration is a secondary driver or one among many socio-economic factors contributing to a better life." Corbett (2005) studied that geographically the rural area plays a vital role in migration. The out-migration, particularly the youths from rural areas, for accessing higher education from different colleges, universities, and higher education institutions from the urban area are a fascinating scenario (Eversole, 2014).

Table 4.21: Educational Qualification of Migrant and Non-Migrant Respondents in Koch Bihar District

Educational qualification	Migration Status (%)		Total (%)	Migration Status (%)		Total (%)
	Non-migrant	Migrant		Non-migrant	Migrant	
Primary	27	27.9	27.6	8.5	19.1	27.6
Upper Primary	27	17.6	20.6	8.5	12.1	20.6
Secondary	11.1	16.9	15.1	3.5	11.6	15.1
Higher Secondary	14.3	2.9	6.5	4.5	2.0	6.5
Graduation & above	11.1	7.4	8.5	3.5	5.0	8.5
Illiterate	9.5	27.2	21.6	3.0	18.6	21.6
Total	100	100	100	31.7	68.3	100.0

Source: Field Study, 2017-2018

Figure 4.8: Educational Qualification of Migrant and Non-Migrant Respondents in Koch Bihar District

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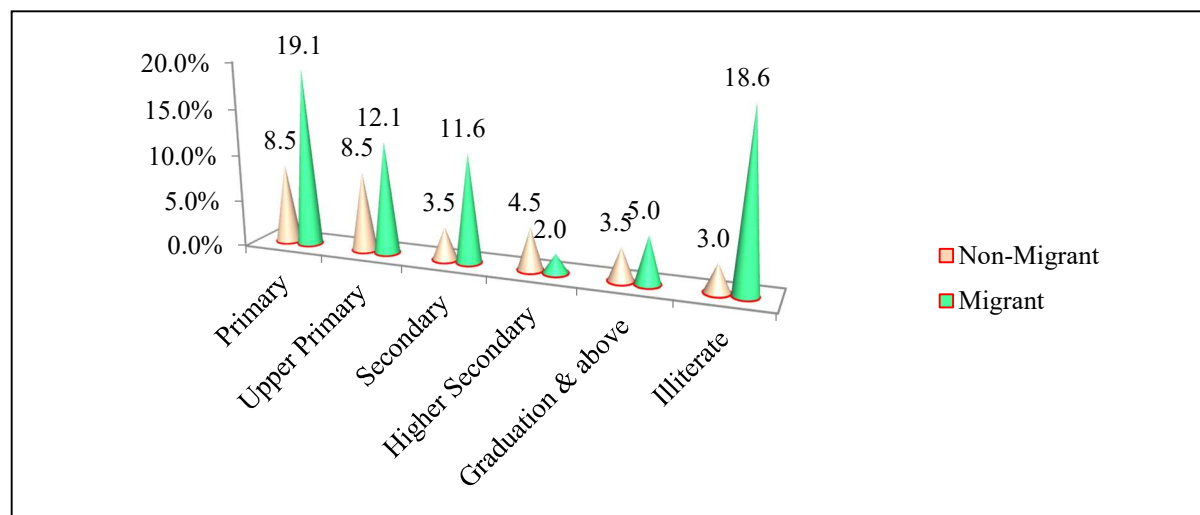
Table 4.21 illustrates overall, 21.6 percent of the respondents are illiterate. The study focused on all migrants (100%) 27.9 percent respondents have completed the primary education level, whereas 27 percent for non-migrant respondents. The corresponding percentage of migrated respondents who have completed upper primary (Class VIII), secondary school (Class X), higher secondary (Class XII), Graduation and above (UG and above) are 17.6 percent, 16.9 percent, 2.9 percent, and 7.4 percent. Similarly, the study found that higher educational qualification is high among the non-migrant respondents than the migrant respondents.

4.2.7. Status of Below Poverty Line (BPL)

The Planning Commission, Government of India, studied a sample survey of households through household consumer expenditure had estimated the percentage of people living below the poverty line at 36.55 percentage.

Table 4.22: Percentage Distribution for the Status of BPL of Migrant and Non-Migrants Respondents

BPL (Yes/No)	Migration Status (%)		Total (%)	Migration Status (%)		Total (%)
	Non-migrant	Migrant		Non-migrant	Migrant	
Yes	20.6	17.1	37.7	65.1	25.0	37.7
No	11.1	51.3	62.3	34.9	75.0	62.3
Total	31.7	68.3	100.0	100.0	100.0	100.0

Source: Field Study, 2017-2018

Figure 4.9: BPL Status of Migrant and Non-Migrant Respondents in Koch Bihar District
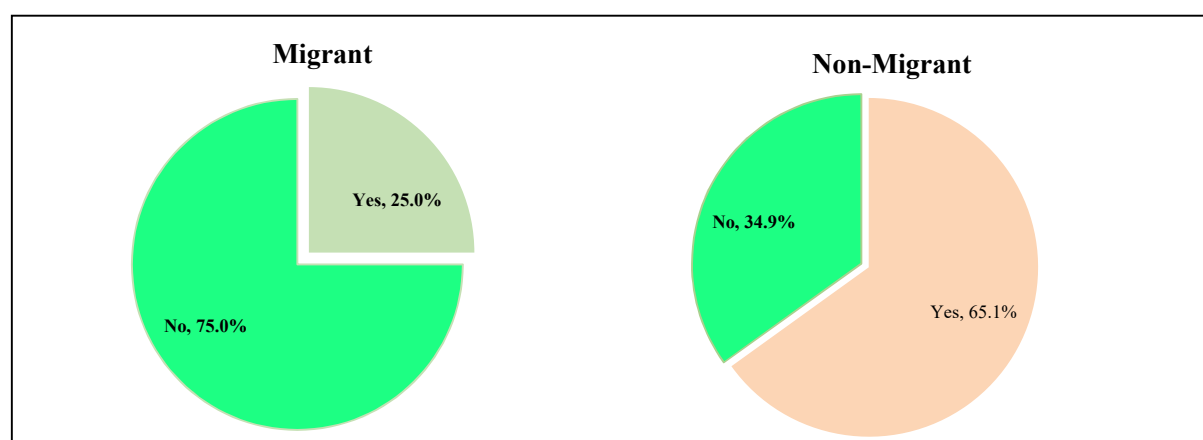
As per the present study, 37.7 percent of respondents are below the poverty line, and the rest of the 62.3 percent are not under this category. Out of all migrant respondents, 25 percent of them are under the BPL category. It is also found that the majority of non-migrants are BPL category (table 4.22).

4.2.8. Family Structure

This section focused that the family structure is classified into two types; joint family and the nuclear family. The nuclear family reveals two parents with their children, whereas the joint family is an extension of a nuclear family. The fieldwork shows 71.9 percent of the respondent's family belongs to the nuclear family. Overall, 58.3 percent of the migrants are nuclear families, and 10.1 percent are joint families. Overall, 13.6 percent and 18.1 percent of non-migrants are nuclear and joint family structure (table 4.23 & figure 4.10).

Table 4.23: Family Structure of Migrant and Non-Migrant Respondents of Koch Bihar District

Family Structure	Migration Status (%)		Total (%)	Migration Status (%)		Total (%)
	Non-migrant	Migrant		Non-migrant	Migrant	
Joint	18.1	10.1	28.1	57.1	14.7	28.1
Nuclear	13.6	58.3	71.9	42.9	85.3	71.9
Total	31.7	68.3	100.0	100.0	100.0	100.0

Source: Field Study, 2017-2018

Figure 4.10: Family Structure of Migrant and Non-Migrant Respondents in Koch Bihar District
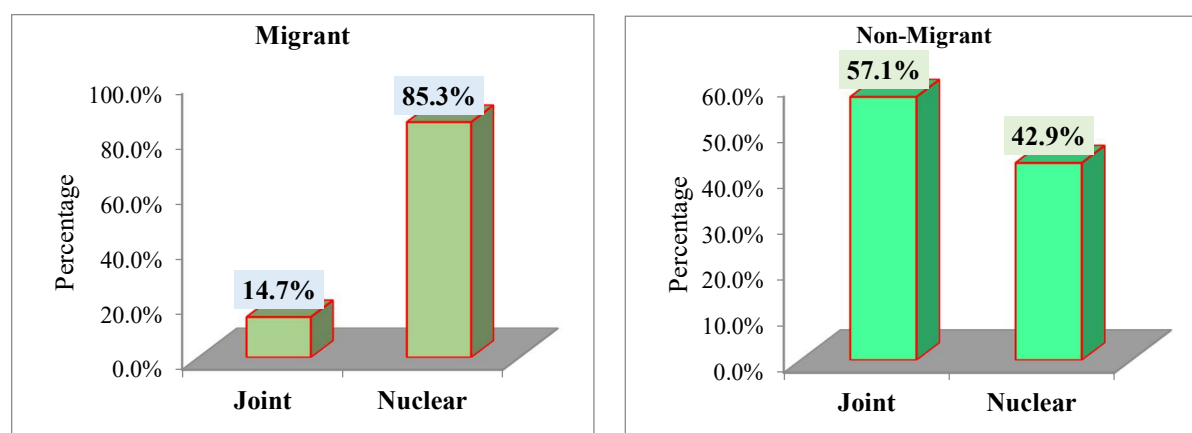
4.2.9. Occupational Structure

The fulfillment of food, shelter, clothing, and related aspects through various occupations are essential for migrant and non-migrant respondents in Koch Bihar district. In the district, most of the daily lives of humankind are associated with agriculture and allied activities. Due to low profit, unavailability of cultivating land, less job security, no industrial sector, etc., the peoples' employment pattern rapidly changed during this time.

Table 4.24: Occupational Structure of Migrant and Non-Migrant Respondents

Occupation	Migration Status (%)		Total (%)	Migration Status (%)		Total (%)
	Non-migrant	Migrant		Non-migrant	Migrant	
Cultivator	6.5	13.6	20.1	20.6	19.9	20.1
Agricultural labours	5.5	18.6	24.1	17.5	27.2	24.1
Construction labour	2.0	6.0	8.0	6.3	8.8	8.0
Labour at brick kilns	4.5	5.0	9.5	14.3	7.4	9.5
Household industry workers	5.0	7.5	12.6	15.9	11.0	12.6
Private sector	.5	1.5	2.0	1.6	2.2	2.0
Business	2.5	4.5	7.0	7.9	6.6	7.0
Govt service	1.5	2.0	3.5	4.8	2.9	3.5
Others	3.5	9.5	13.1	11.1	14.0	13.1
Total	31.7	68.3	100.0	100.0	100.0	100.0

Source: Field Study, 2017-2018

Figure 4.11: Occupational Structure of Migrant and Non-Migrant Respondents
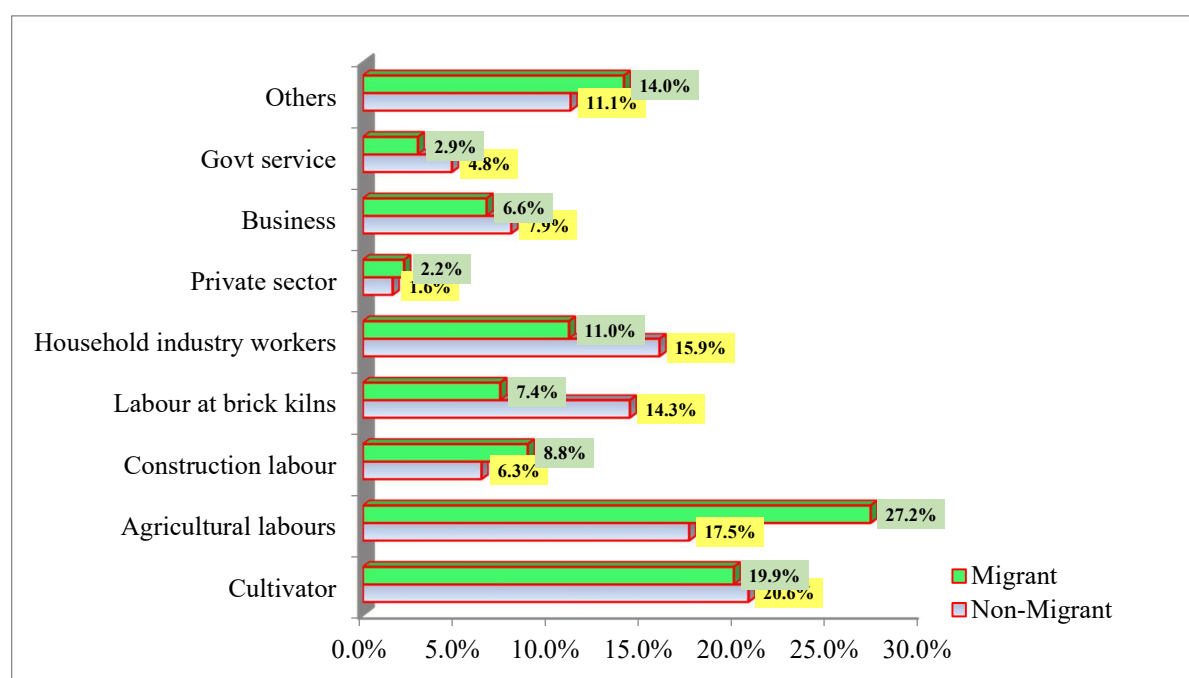
Table 4.25: Percentage Distribution of Occupation of Migrant Respondents within the blocks of Koch Bihar District

Block	Present Occupation (%)									Total (%)
	Cultivator	Agricultural labours	Construction labour	Labour at brick kilns	Household industry workers	Private sector	Business	Govt service	Others	
Dinhata-I	0.0	0.0	0.0	0.0	25.0	0.0	25.0	0.0	50.0	100.0
Dinhata-II	33.3	16.7	0.0	0.0	33.3	0.0	8.3	0.0	8.3	100.0
Haldibari	10.0	80.5	0.0	0.0	9.5	0.0	0.0	0.0	0.0	100.0
Koch Bihar-I	0.0	75.0	0.0	0.0	6.3	0.0	6.3	0.0	12.5	100.0
Koch Bihar-II	0.0	0.0	0.0	0.0	14.3	28.6	0.0	28.6	28.6	100.0
Mathabhanga-I	25.0	75.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0
Mathabhanga-II	0.0	57.1	0.0	0.0	0.0	0.0	0.0	0.0	42.9	100.0
Mekhliganj	33.3	33.3	0.0	0.0	22.2	0.0	0.0	0.0	11.1	100.0
Sitai	0.0	0.0	50.0	25.0	0.0	0.0	0.0	0.0	25.0	100.0
Sitalkuchi	0.0	3.8	38.5	34.6	15.4	0.0	0.0	3.8	3.8	100.0
Tufanganj-I	57.9	0.0	0.0	0.0	5.3	5.3	26.03	5.3	0.0	100.0
Tufanganj-II	87.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	12.5	100.0
District	19.9	27.2	8.8	7.4	11.0	2.2	6.6%	2.9	14.0	100.0

Source: Field Study, 2017-2018

Table 4.26: Percentage Distribution of Present Occupation of Non-Migrant Respondents within the blocks of Koch Bihar District

| Block | Present Occupation (%) | | | | | | | | | Total (%) |
	Cultivator	Agricultural labours	Construction labour	Labour at brick kilns	Household industry workers	Private sector	Business	Govt service	Others	
Dinhata-I	0.0	0.0	0.0	0.0	0.0	0.0	50.0	0.0	50.0	100.0
Koch Bihar-I	20.0	0.0	0.0	0.0	80.0	0.0	0.0	0.0	0.0	100.0
Koch Bihar-II	10.0	20.0	0.0	30.0	20.0	0.0	10.0	0.0	10.0	100.0
Mathabhanga-I	0.0	50.0	0.0	0.0	0.0	0.0	0.0	0.0	50.0	100.0
Mathabhanga-II	0.0	66.7	0.0	0.0	0.0	0.0	0.0	0.0	33.3	100.0
Mekhliganj	33.3	33.3	0.0	0.0	0.0	0.0	0.0	0.0	33.3	100.0
Sitai	0.0	50.0	0.0	25.0	0.0	0.0	12.5	12.5	0.0	100.0
Sitalkuchi	15.8	5.3	21.1	21.1	10.5	5.3	5.3	10.5	5.3	100.0
Tufanganj-I	66.7	0.0	0.0	0.0	33.3	0.0	0.0	0.0	0.0	100.0
Tufanganj-II	76.0	1.75	0.0	0.0	15.5	0.0	1.25	0.0	5.5	100.0
Total	20.6	17.5	6.3	14.3	15.9	1.6	7.9	4.8	11.1	100.0

Source: Field Study, 2017-2018

Above table 4.25 focused that out of 68.3 percent of the migrant respondents, 13.6 percent are engaged with cultivation, and 18.6 percent cultivate labor, whereas 6.5 percent of the cultivator and 5.5 percent are agricultural labour non-migrants (31.7%) in the district. Comparatively, it has been observed that both migrant and non-migrant respondents are engaged with agriculture and household-based industry-related activities in the district (figure 4.11).

The study also reveals the percentage distribution of present occupation of migrant respondents within the blocks of Koch Bihar District, where the CD block, namely Haldibari, Koch Bihar-I, Mathabhanga-I, and Mathabhanga-II, having most of the respondents are agricultural labours. Besides, the CD blocks, namely Dinhata-I, Dinhata-II, Haldibari, Mekhliganj, Koch Bihar-II, and Sitalkuchi, having more than 10 percent of respondents within the blocks are engaged different household-based industry works *like Beedi, Tant, Aagarbati, Shitalpati, and bamboo,*etc. Similarly, table 4.26 indicates the block-wise percentage distribution of occupation of non-migrant respondents in Koch Bihar district.

4.2.10. Housing

To studymigrant and non-migrant respondents' socio-economic conditions, the respondents' housing conditions are fundamental indicators among all the indicators. In this study, the household's accommodation for residential use is defined as a housing unit. The study categorised housing units into three different structures: viz., *kutcha, semi-pucca, and pucca.*

Table 4.27: Types of Houses of Migrant and Non-Migrant Respondents

Types of Houses	Migration Status (%)		Total (%)	Migration Status (%)		Total (%)
	Non-migrant	Migrant		Non-migrant	Migrant	
Kutcha	9.5	36.7	46.2	30.2	53.7	46.2
Semi-pucca	11.1	22.1	33.2	34.9	32.4	33.2
Pucca	11.1	9.5	20.6	34.9	14.0	20.6
Total (%)	31.7	68.3	100.0	100.0	100.0	100.0

Source: Field Study, 2017-2018

The *pucca* structures indicating the walls and roofs are made of *pucca* materials such as cement, concrete, stone, bricks, iron sheets, asbestos sheet, and other *pucca* materials,

whereas *kutcha* means all structures include *non-pucca* materials such as thatch, mud, low-quality timber, grass, plastic sheet, and other *kutcha* materials. A structure, which cannot be classified as *pucca* or *kutcha* they are called as *semi-pucca*. Such structures may have a combination of both *pucca* and *kutcha* structures. The study clears the overall majority of migrants having *kutcha* houses. Out of all migrant respondents, 53.7 percent are *kutcha*, 32.4 percent are *semi-pucca,* and 14 percent are *pucca* structures. Among non-migrant respondents, 30.2 percentage units are *kutcha,* and 34.9 percent are *semi-pucca* and *pucca* structures (table 4.27 & figure 4.12).

Figure 4.12: Types of Houses among Migrant and Non-Migrant Respondents
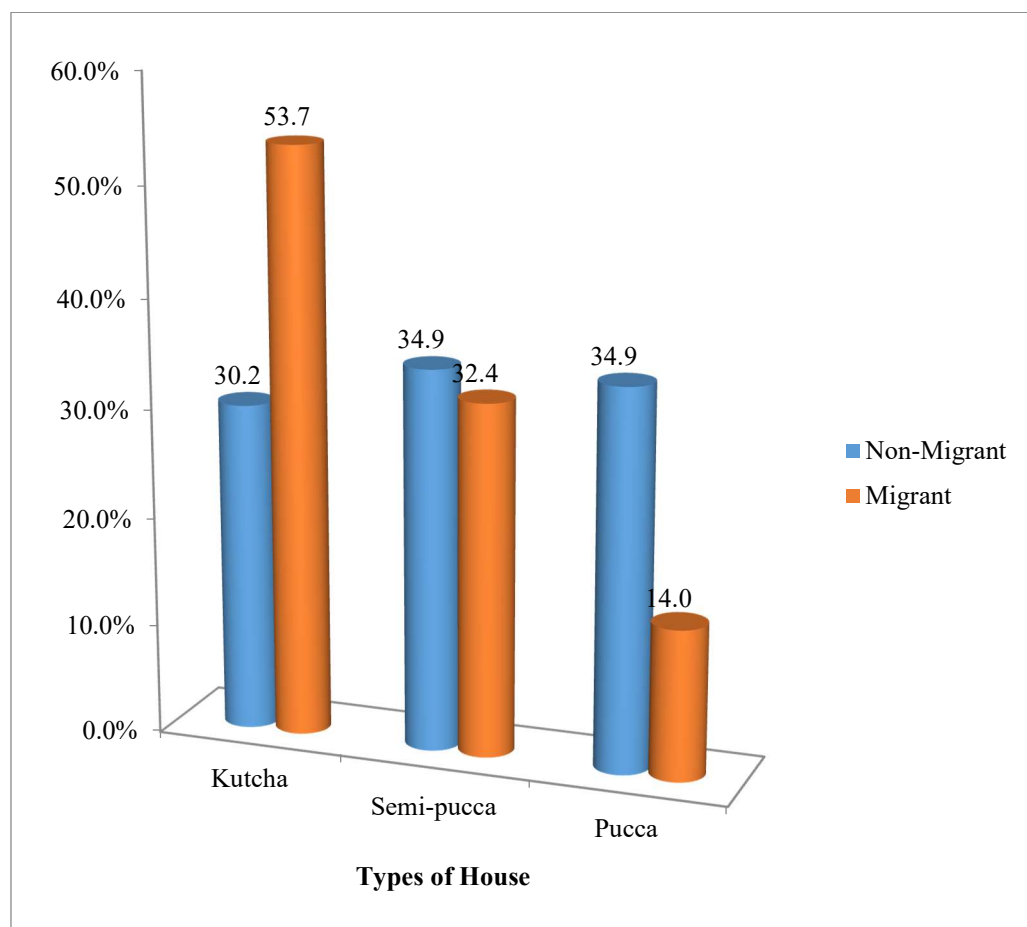
The number of rooms in a house is essential for the living of the respondents. The numbers of rooms available to a particular household denote the household's living status and socio-economic standard. The study focused that most houses have 3 to 4 rooms for their family members (58.8%). Out of all migrants, 61 percent of the respondents are 3 to 4 rooms, 25 percent are 1 to 2 rooms, and only 14 percent are more than 4 rooms in their

houses. Similarly, out of all non-migrants, 54 percentage respondents are 3 to 4 rooms, and 22.2 percent are more than 4 rooms in their houses (table 4.28 & figure 4.13).

Table 4.28: Number of Rooms of Migrant and Non-Migrant Respondents

No. of Rooms	Migration Status (%)		Total (%)	Migration Status (%)		Total (%)
	Non-migrant	Migrant		Non-migrant	Migrant	
1 to 2	7.5	17.1	24.6	23.8	25.0	24.6
3 to 4	17.1	41.7	58.8	54.0	61.0	58.8
>4	7.0	9.5	16.6	22.2	14.0	16.6
Total (%)	31.7	68.3	100.0	100.0	100.0	100.0

Source: Field Study, 2017-2018

Figure 4.13: Number of Rooms among Migrant and Non-Migrant Respondents
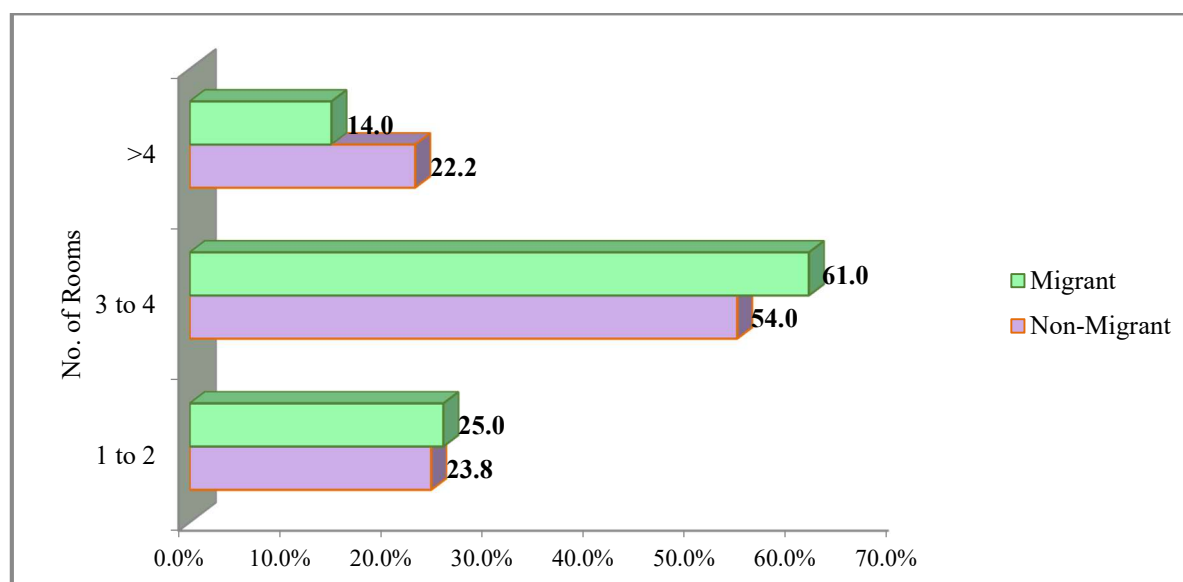
Table 4.29: Status of Separate kitchen Room of Migrant and Non-Migrant Respondents

Separate kitchen room	Migration Status (%)		Total (%)	Migration Status (%)		Total (%)
	Non-migrant	Migrant		Non-migrant	Migrant	
Yes	28.6	56.3	84.9	90.5	82.4	84.9
No	3.0	12.1	15.1	9.5	17.6	15.1
Total	31.7	68.3	100.0	100.0	100.0	100.0

Source: Field Study, 2017-2018

The study found that 82.4 percent of migrant households have separate kitchen rooms out of all households, and 90.5 percent of non-migrant households have separate kitchen rooms (table 4.29 & figure 4.14).

Figure 4.14: Status of Separate Kitchen Rooms among the Migrant and Non-Migrant Respondents
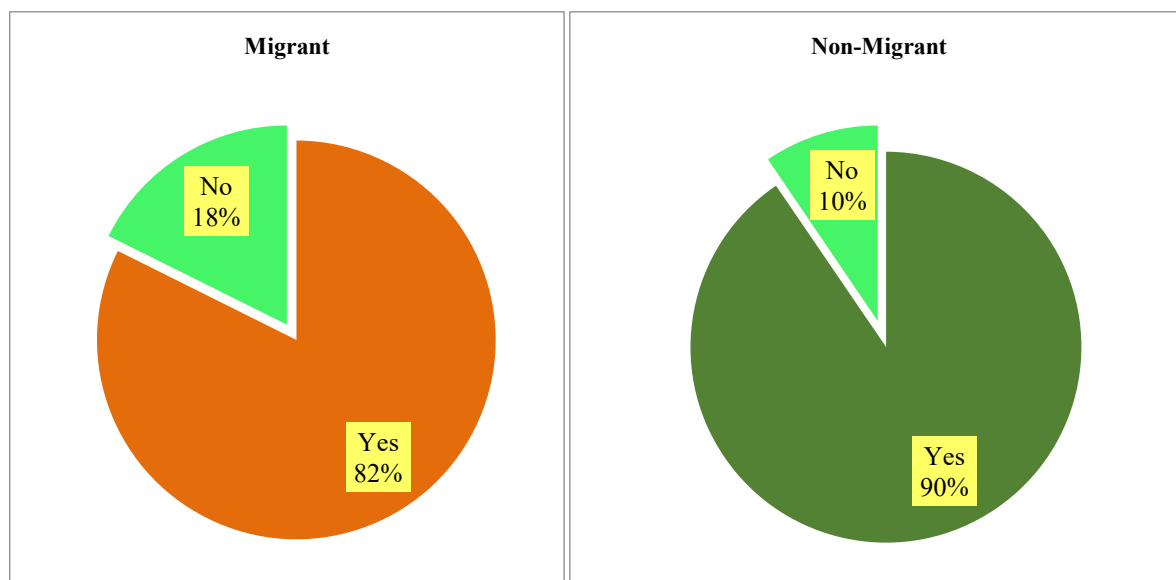
4.2.11. Source of Drinking Water

According to the Field Study, 2017-2018, the district's primary drinking water source is a home tube well. 79.4 percent of the total households reported use home tubes well as the primary source of drinking water. The primary source of drinking water reported by 11.1 percent of the total households is tap, and 9.5 percent of the total households using tap water as the source of drinking water in Koch Bihar district (Table 4.30).

Table 4.30: Drinking Water Sources of Migrant and Non-Migrant Respondents

Sources of drinking water	Migration Status (%)		Total (%)	Migration Status (%)		Total (%)
	Non-migrant	Migrant		Non-migrant	Migrant	
Home tube well	24.1	55.3	79.4	76.2	80.9	79.4
Tap water	1.5	8.0	9.5	4.8	11.8	9.5
Govt deep tube well	6.0	5.0	11.1	19.0	7.4	11.1
Total (%)	31.7	68.3	100.0	100.0	100.0	100.0

Source: Field Study, 2017-2018

Figure 4.15: Drinking Water Sources of Migrant and Non-Migrant Respondents
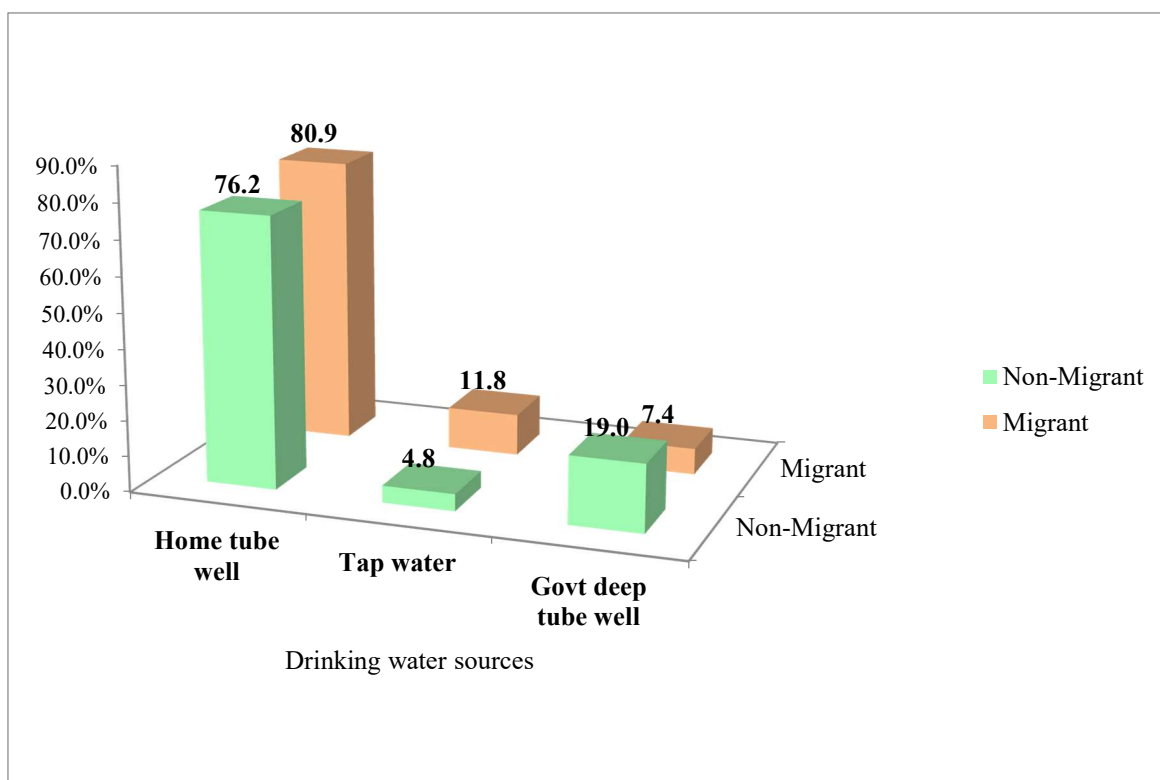
From the above table 4.30 and figure 4.15, both the household of migrant (80.9%) and non-migrant (76.2%) respondents use the home tube as the primary source of drinking water. It is found that within the migrant households, 7.4 percent reported deep tube well is the primary source of drinking water, whereas, in the non-migrant households, it is 19 percent.

4.2.12. Main Source of Energy of Lighting

According to the field survey, Koch Bihar district people's primary energy source for lighting is electricity. Out of all migrant households, 53.25 percent of the households reported electricity as the primary lighting source. In contrast, 55.78 percent of non-migrant households reported as electricity is the primary source of lighting. Kerosene is the secondary source of lighting for migrant and non-migrant households in Koch Bihar district's rural areas. It has recently been found that 7.15 percent and 6.19 percent of non-migrant and migrant households use solar as the source of lighting in the district (table 4.31 and figure 4.16).

Table 4.31: Main Source of Lighting of Migrant and Non-Migrant Respondents

The primarysource of lighting	Migrant (%)	Non-Migrant (%)
Electricity	53.25	55.78
Kerosene	40.36	37.07
Solar Energy	6.19	7.15
Others	0.2	0
Total	100	100

Source: Field Study, 2017-2018.

Figure 4.16: Main Source of Lighting of Migrant and Non-Migrant Respondents
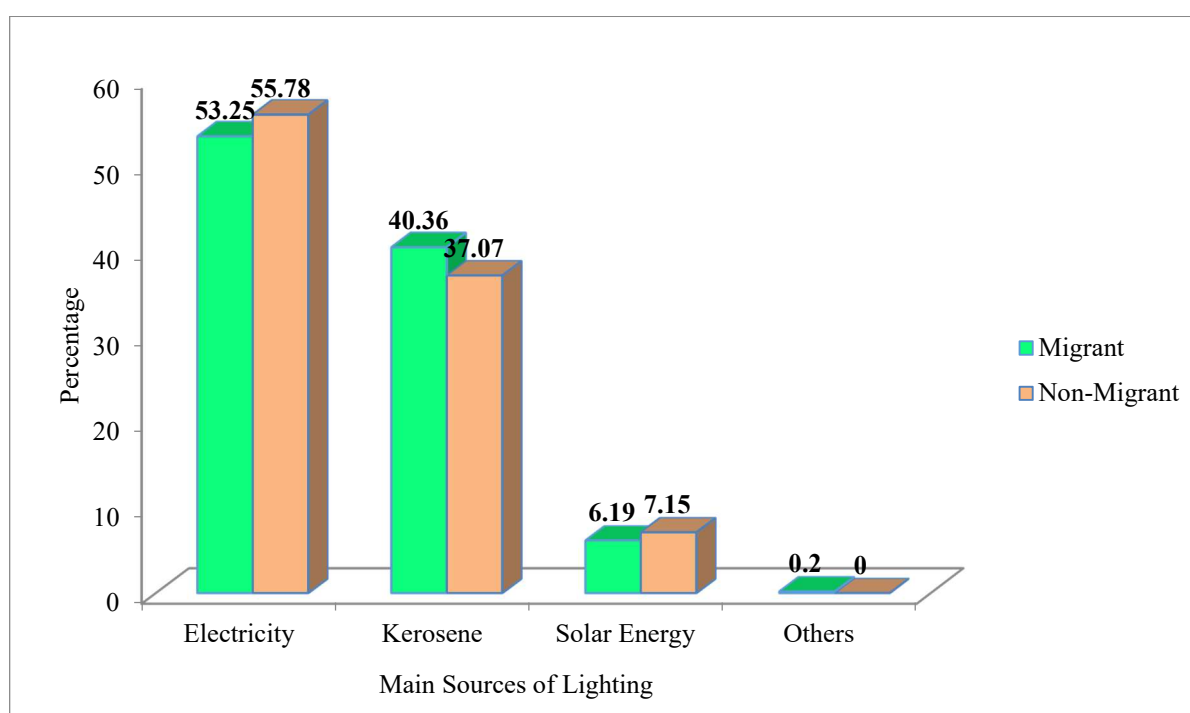
4.2.13. Availability of Latrine

The following table 4.32 explained information on the availability of latrines to the surveyed household's hygiene behavior. The survey reveals if a household does not have any latrine facility, that means its member use open-air as latrine was considered having no latrine, and if a household is using community or public latrine, then it is considered no latrine in the housing unit.

Table 4.32: Availability of Latrine Facility of Migrant and Non-Migrant Respondents

Availability of Latrine Facility	Migrant (%)	Non-Migrant (%)
Yes	61.27	68.7
No	37.75	31.3
Total	100	100
Types of latrine	Migrant	Non-Migrant
Flush/Pour latrine	24.72	26.9
Pit latrine	35.25	41.8
Service latrine	1.3	0
Households not having latrine facility	37.75	31.3
Total	100	100

Source: Field Survey, 2017-2018

Figure 4.17: Availability of Latrine Facility of Migrant and Non-Migrant Respondents
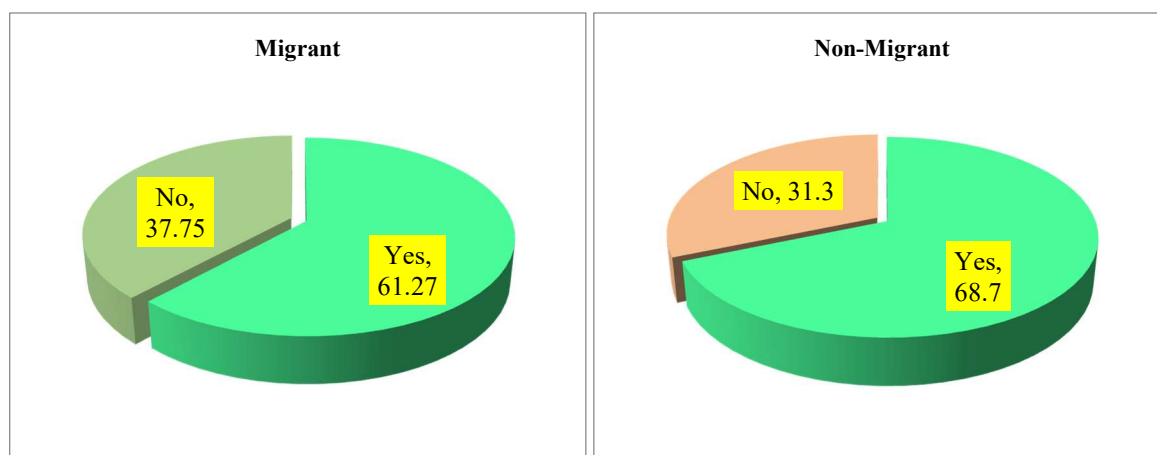
Figure 4.18: Types of Availability of Latrine Facility of Migrant and Non-Migrant Respondents
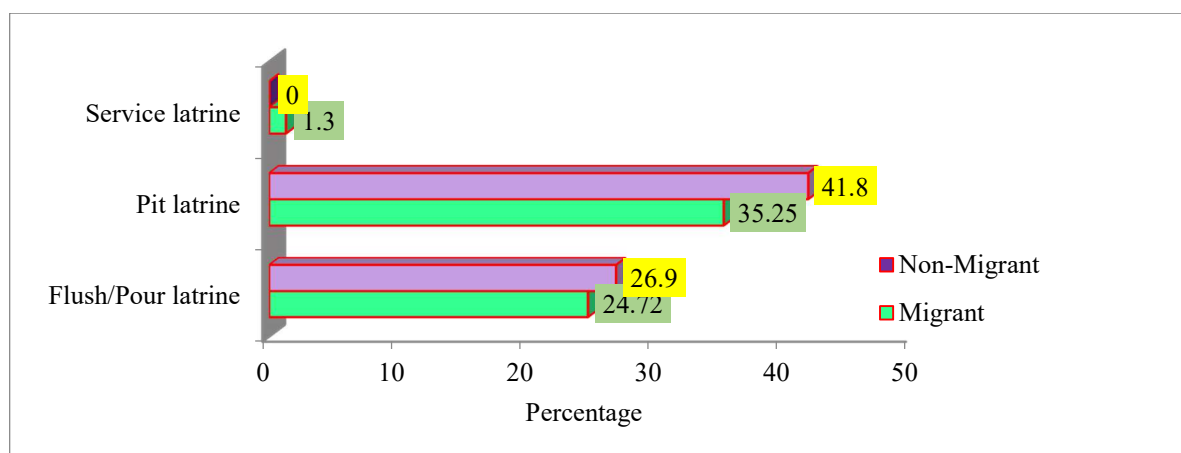
The study focuses on three types of latrines viz., flush or pour latrine, pit latrine, and service latrine. Out of all migrated households, 61.27 percent of them have a latrine, and

comparatively, 68.7 percent non-migrant households are available for latrine facilities. In this regard, latrines with water closets to underground sewerage systems or underground septic chambers were recorded as water flush larvae with the septic tank. Shabbily built latrines are attached to a pit dug in the earth, and devoid a proper stool or water closets were termed as an open-pit latrine. A simple type of pit latrine construction costs is low where households can perform large parts of themselves (Boot, 2008). The survey found, majority percent of both migrant and non-migrant households having pit latrines. The above figure 4.18 shows 24.72 percent and 26.9 percent of the household accounts are using flush or pour latrines.

4.2.14. Agriculture and Livestock

The socio-economic condition of the individual households in the district depends on agriculture and livestock. The data on cultivation and livestock was collected from the migrant and non-migrant households during the field survey. The following table 4.33 shows out of all migrants, the majority of migrant households having agricultural land was less than 3 *bigha.* About 50 percent of the non-migrants have not agricultural land, and they are also called landless workers, whereas it was 27.9 percent for migrant households.

Table 4.33: Percent of Households and their Agricultural Land of Migrant and Non-Migrant Households

Cultivate land	Migration Status (%)		Total (%)
	Non-migrant	Migrant	
Yes	50.8	72.1	65.3
No	49.2	27.9	34.7
Total	100	100	100

Source: Field Study, 2017-2018.

Table 4.34: Amount of Agricultural Land of Migrant and Non-Migrant Households

Cultivate land (in *Bigha*)	Migration Status (%)		Total (%)
	Non-migrant	Migrant	
<3	34.9	52.9	47.2
3-6	6.3	11.0	9.5
>6	9.5	8.1	8.5
Landless HH	49.2	27.9	34.7
Total	100	100	100

Source: Field Study, 2017-2018.

Figure 4.19: Percent of Households and their Agricultural Land of Migrant and Non-Migrant Households
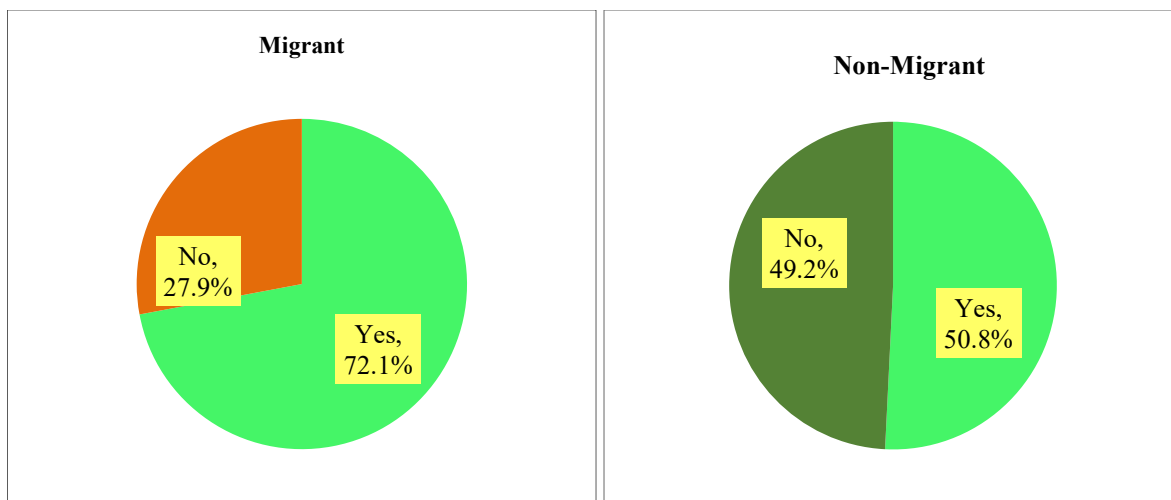
Figure 4.20: Percentage Distribution of Amount of Agricultural Land of Migrant and Non-Migrant Households
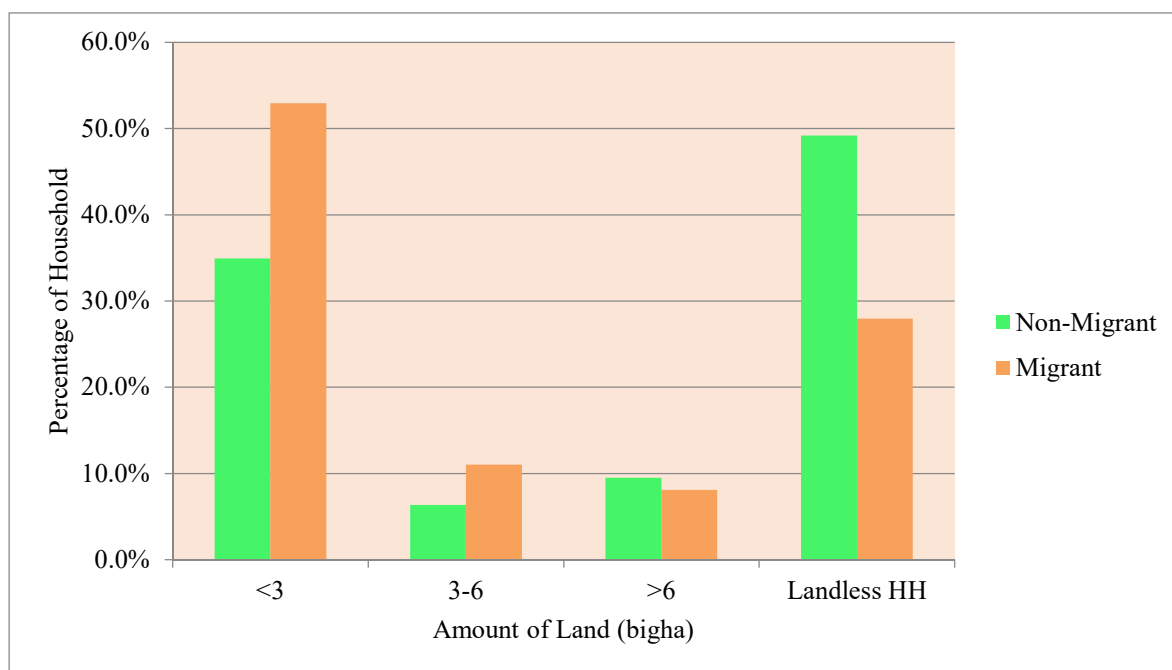
Table 4.35 reveals that both the migrant (54.4%) and non-migrant (34.9%) households are cultivated rice as their primary cultivation. Out of all, 14.7 percent of migrant households reported that tobacco is the primary crop, whereas it is 15.9 percent for the non-migrant household.

Table 4.35: Percent of Households and their Agricultural Crops of Migrant and Non-Migrant Households

Crops	Migration Status (%)		Total (%)
	Non-migrant	Migrant	
Rice	34.9	54.4	48.2
Tobacco	15.9	14.7	15.1
Others	2.80	2.9	2.0
No	46.4	27.9	34.7
Total	100	100	100

Source: Field Study. 2017-2018

Figure 4.21: Percent of Agricultural Crop Production of Migrant and Non-Migrant Households
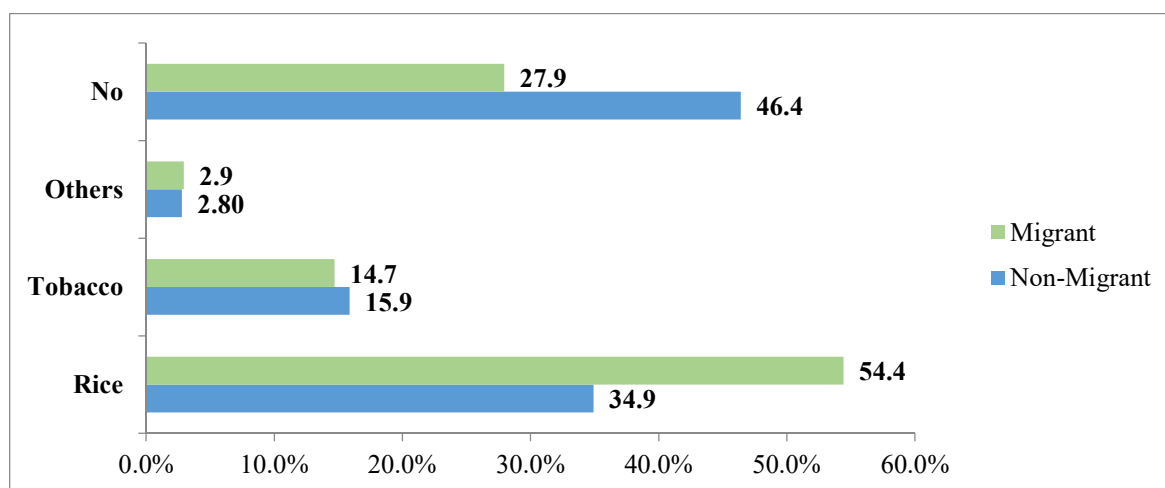
Figure 4.22: Percent of Livestock of Migrant and Non-Migrant Households
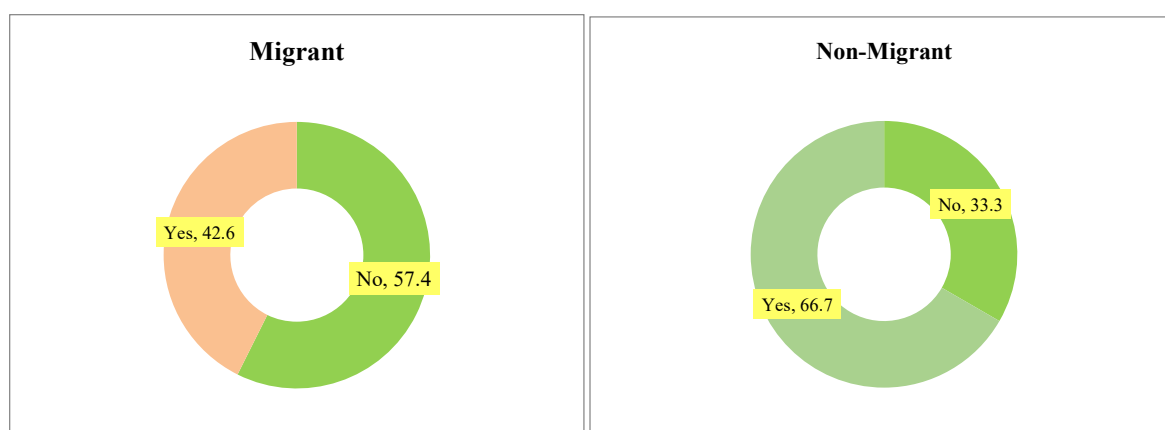
Table 4.36: Percent of Livestock of Migrant and Non-Migrant Households

Livestock	Migration Status (%)		Total (%)
	Non-migrant	Migrant	
No	33.3	57.4	49.7
Yes	66.7	42.6	50.3
Total	100.0	100.0	100.0

Source: Field Study, 2017-2018.

Besides agriculture, animal husbandry has been and will continue to be the lifeline of the Indian economy. Different socio-economic study reveals livestock has emerged as an essential sector of the expanding and diverse agricultural sector of the Indian economy. However, this case study found that most households are not generally doing animal husbandry for commercial purposes. It has been observed that 50 percent of the households are doing animal husbandry. Out of all migrant households, 42.6 percent are engaged in livestock, whereas it is 66.7 percent for the non-migrant population (table 4.36).

4.2.15. Income and Expenditure

The socio-economic data collected information related income and expenditure status of migrant and non-migrant households in the district. This chapter studies the majority percent of households' income under 5000 rupees per month (61.3%). The study noted that 78.7 percent migrant households' income under 5000 rupees per month out of all migrants. Majority percent (71.4%) of non-migrants monthly income range rupees 5000-10000 per month (table 4.37).

Table 4.37: Percentage Distribution of Migrant and Non-Migrant Households by Monthly Income (Rupees)

Monthly income (Rs)	Migration status (%)		Total (%)
	Non-migrant	Migrant	
<5000	23.8	78.7	61.3
5000-10000	71.4	18.4	35.2
>10000	4.8	2.9	3.5
Total	100.0	100.0	100.0

Source: Field Survey, 2017-2018.

In the following figure 4.23, the Lorenz curve shows the inequality of monthly income between migrant and non-migrant households. The study reveals there is less inequality of monthly income among the non-migrant households than migrant households in the district.

Figure 4.23: Inequality of Monthly Income (Rs.) between Migrant and Non-Migrant Households
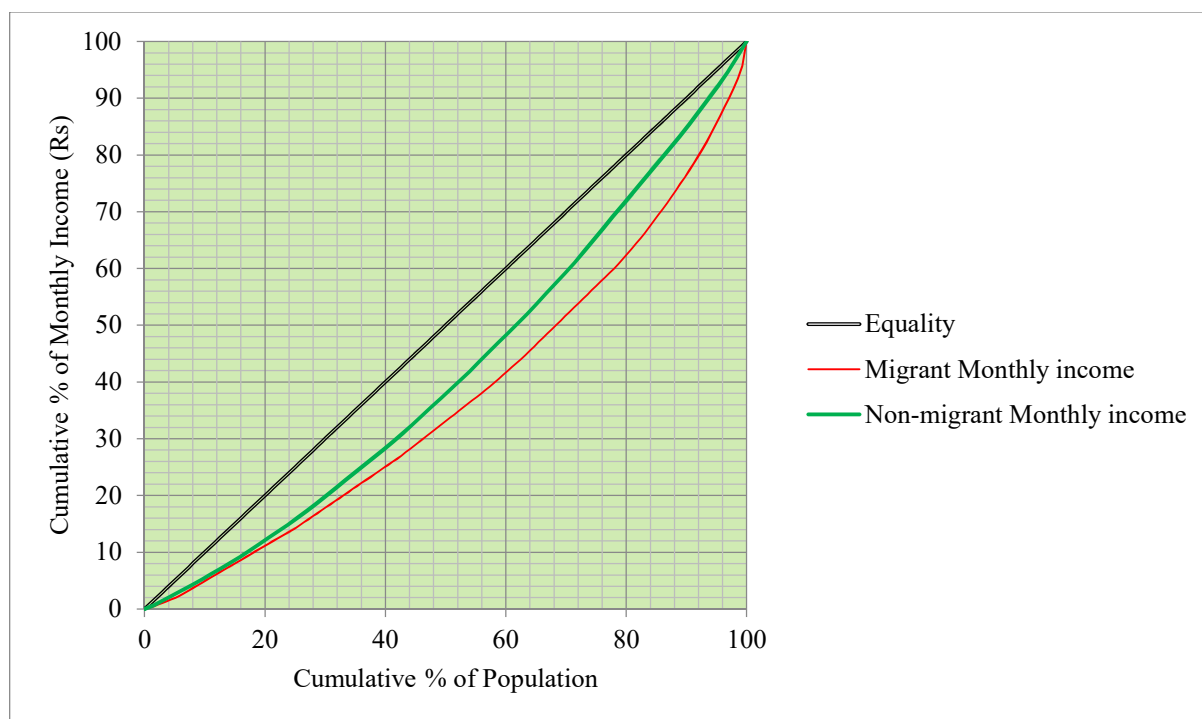
Besides, the income the monthly expenditure affects the standard quality of living of migrant and non-migrant households. The study results, household expenditures are depending on the monthly income. The following table 4.38 envisages among all migrant households, 52.2 percent monthly expenditure was less than rupees 5000 per month, and 45.6 percent expenditure was rupees 5000-10000 per month. Moreover, 2.2 percent of migrant households' expenditures were more than rupees 10000 per month. The study found that 63.5 percent of non-migrant households have expenditure rupees 5000-10000 per month.

Table 4.38: Percentage Distribution of Migrant and Non-Migrant Households by Monthly Expenditure (Rupees)

Monthly expenditure (Rs)	Migration status (%)		Total (%)
	Non-migrant	Migrant	
<5000	33.3	52.2	46.23
5000-10000	63.5	45.6	51.3
>10000	3.2	2.2	2.5
Total	100.0	100.0	100.0

Source: Field Survey, 2017-2018.

Figure 4.24: Inequality of Monthly Expenditure (Rs.) between Migrant and Non-Migrant Households
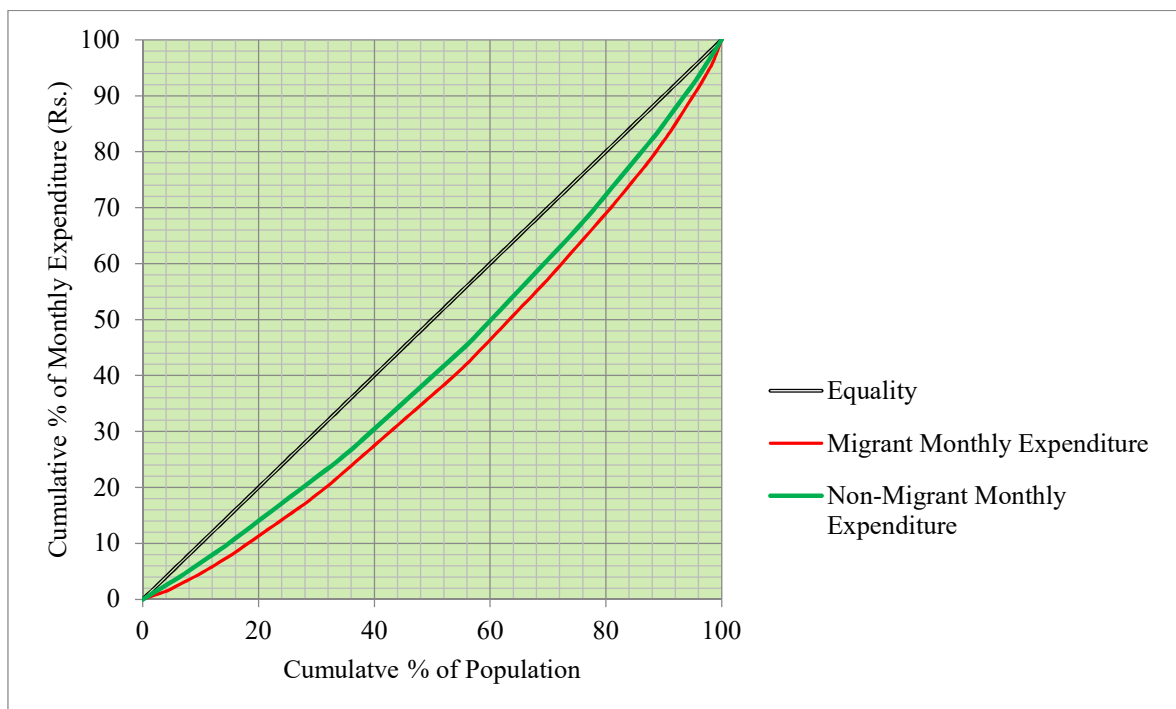
The above figure 4.24 of the Lorenz Curve shows the inequality of expenditure of different items, e.g., food, clothing, education, electricity, health, and others, between migrant and non-migrant households in the district. The above diagram reveals there is an inequality of monthly expenditure of migrant households than non-migrant households. Gini co-efficient value for the montly income of migrant households was found 0.35 while it was 0.10 for non-migrant households. So, the Gini co-efficient cleared that there is a high inequality of montly income between migrant and non-migrant households in the district. Similar figure has been observed in the monthly expenditure where Gini co-efficient value for migrant households was 0.27 and a non-migrant household was 0.11. The 'G' index closer to the value '0' is indicating the equality of income and expenditure among the respondents.

4.2.16. Debit

The study found debts or loans for land, house construction, medical treatment, marriages, etc., of the migrant and non-migrant households in the study area. It has been shown that about 50 percent of the surveyed household collected loans from different agencies (table 4.39).

Table 4.39: Percentage Distribution of Migrant and Non-Migrant Households by Indebtedness Status

Any Debts or loan	Migration status (%)		Total (%)
	Non-migrant	Migrant	
Yes	44.4	52.2	49.7
No	55.6	47.8	50.3
Total	100.0	100.0	100.0

Source: Field Survey, 2017-2018.

The following figure 4.32 found 52.2 percent of migrant and 44.4 percent of non-migrant households are collected debt or loan from different agencies like bank, co-operatives, money-lenders, SHGs.

Figure 4.25: Percentage Distribution of Migrant and Non-Migrant Households by Indebtedness Status
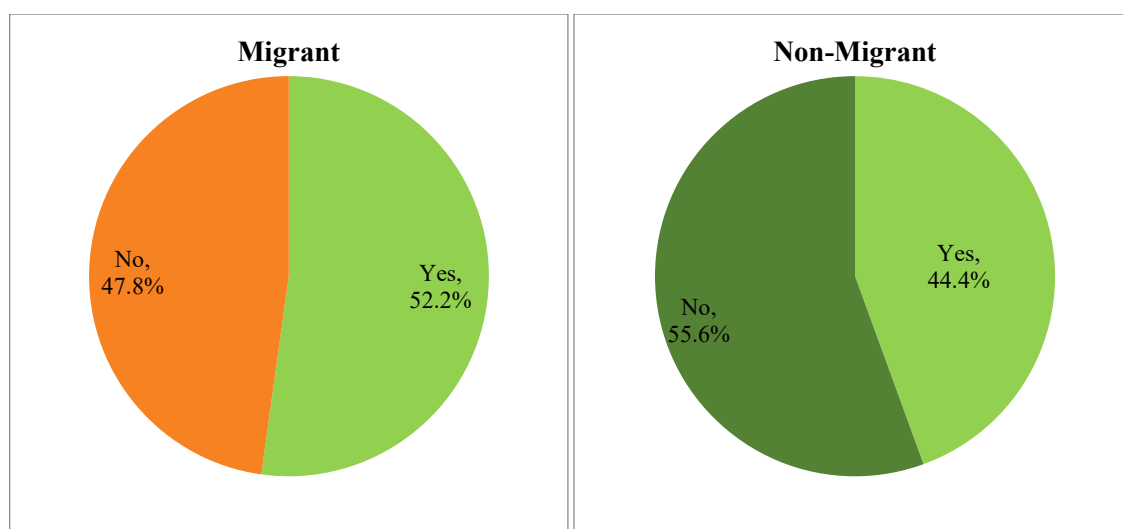
Table 4.40: Percentage Distribution of Migrant and Non-Migrant Households by Lending Agencies

Lending Agencies	Migration status (%)		Total (%)
	Non-migrant	Migrant	
Bank	12.7	14.7	14.1
Co-operatives	11.1	12.5	12.1
Moneylenders	0.0	4.4	3.0
SHGs	20.6	21.3	21.1
No	55.6	47.1	49.7
Total	100.0	100.0	100.0

Source: Field Study, 2017-2018

Before the bank set up, the study focused that most households were collected loans from money lenders who charged a high rate of interest. However, recently various banks, societies, SHGs opened in the district. In this regard, Bandhan Bank and different SHGs are provided more facilities of loan among the public. Besides Banks, government departments and financial institutes also extended loans to the migrant and non-migrant respondents. The following figure 4.33 shows both the majority of migrant (21.3%) and non-migrant (20.6%) households were collected loans by the Self-Help Groups (SHGs).

Figure 4.26: Percentage Distribution of Migrant and Non-Migrant Households by Lending Agencies
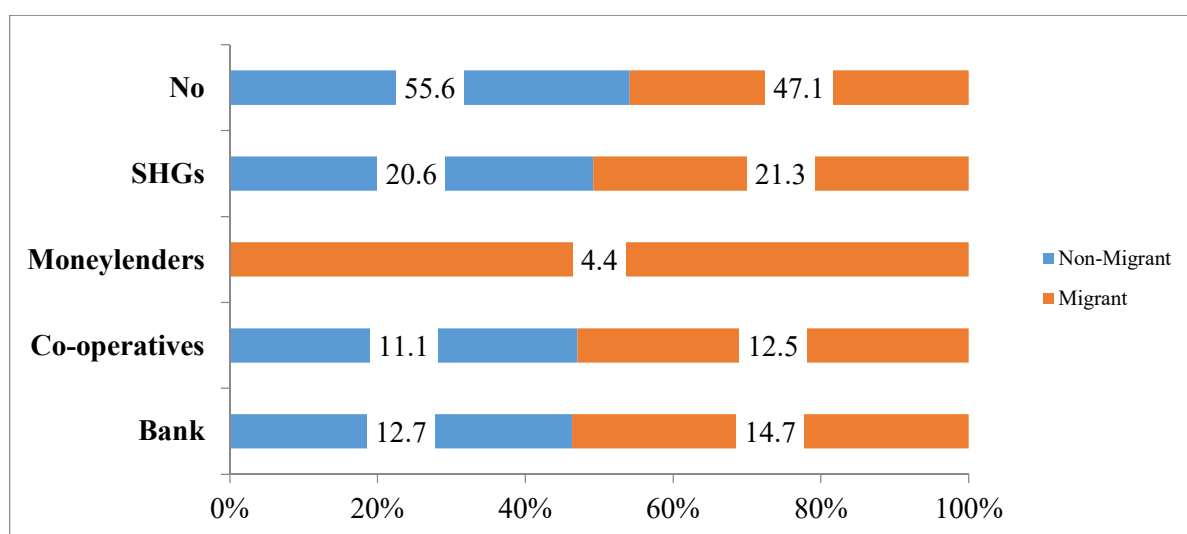
Figure 4.27: Percentage Distribution of Migrant and Non-Migrant Respondents by Place of Birth (POB)
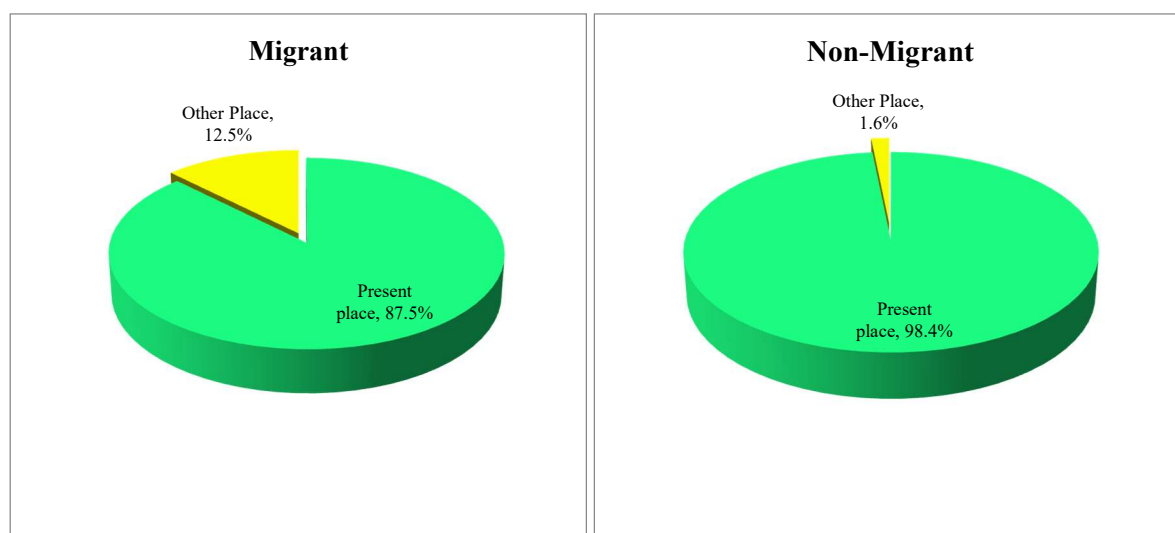
4.2.17. Place of Birth (POB)

The place of birth (POB) is indicating the origin of migrant and non-migrant in the district. The place of birth has been identified at the time of enumeration by the 2011 Census.

Table 4.41: Percentage Distribution of Migrant and Non-Migrant Respondents by Place of Birth (POB)

Place of Birth (POB)	Migration status (%)		Total (%)
	Non-migrant	Migrant	
Present place	98.4	87.5	91.0
Other Place	1.6	12.5	9.0
Total	100.0	100.0	100.0

Source: Field Study, 2017-2018

The above figure 4.27 and table 4.41 showsthat 91 percent of them reported their place of birth is present where the researchers enumerated. Only 9 percent reported that their birthplace is different from present places. Both the majority percent of migrants and non-migrants are reported their place of birth is present place.

4.2.18. Decision making on Out-Migrants

Migration is the change of individuals, groups, households between residential locations. Before migration, the residential location is called the origin of the residential location after the migration is called the destination, while many factors contribute to migration's decision-making (Greenwood, 2001). Haug (2008) studied the social network's role is the crucial determinants of migration decision making. Judson (1990) provided a decision-making model of migration and the explanation of human behavior.

Table 4.42: Percentage of Decision Makers of Rural Out-Migrants, Koch Bihar District

Gender	The decision-maker in birthplace (%)						Total (%)
	Parents	Self	Friends	Relatives	Employer	Others	
Male	14.0	40.4	14.0	5.1	2.2	11.8	87.5
Female	3.7	3.7	1.5	0.0	0.0	3.7	12.5
Total	17.6	44.1	15.4	5.1	2.2	15.4	100.0

Source: Field Survey, 2017-2018.

A researcher like Shah et al.(2018) focused that the "movement of migration is complex" and depends upon social relations, culture, and policy regimes of migrants. Out of all migrants, 44.1 percent have to out-migrate their individual decisions, while 40.4 percent

are males and 3.7 percent are females. The study also found that their parent decision migrates 17.6 percent of respondents while 14 percent are male and 3.7 percent are female migrated respondents (table 4.42). Friends and relatives' roles are also important aspects of migration decision-making from the rural Koch Bihar district.

4.2.19. Source of Work Information for Rural Out-Migrants

The study generally covers the study of migrants from rural populations, where besides the decision making of out-migration there is essential for collecting the information of work 'source' and the 'destination.'

Table 4.43: Source of Work Information for Out-Migration

Gender	Source of Work Information for Out-Migration (%)				Total (%)
	Education	Previous knowledge	*Thikadar*	Others	
Male	5.9	33.1	41.9	6.6	87.5
Female	.7	6.6	5.1	0.0	12.5
Total	6.6	39.7	47.1	6.6	100.0

Source: Field Survey, 2017-2018.

The above table 4.43 is showing the majority of out-migrants collected their destination information from the *Thikadar*. In a previous study by Barman and Roy (2019) from the district, a large percentage of labour out-migrant depends on third person in search of livelihood in different urban areas of India, and these third persons are called *Thikadar*. We observed that 47.1 percent of the total respondents have to collect their source of work information from the *Thikadar,* followed by 39.7 percent from the previous knowledge. Young migrants are generally found the information of destination by their studies.

4.2.20. Previous Experience of Rural Out-Migrants

Previous work experience indicates increased out-migrants' income and happiness level (Nikolova et al. 2018). Several researchers like Jones (1998), Ma (2001),and Beiser et al. (2015) focused that any experience of out-migration helps migrant's future in the field of wages, remittances, human health, mental health, etc. The previous work experience helps develop among the migrants to choose their destination shortly (Ryu and Tuvilla, 2018).

Table 4.44: Percentage Distribution of Previous Experience of Out-Migration, Koch Bihar District

Gender	Previous Experience of Migration (%)		Total (%)
	No experience	Some experience	
Male	50.0	37.5	87.5
Female	9.6	2.9	12.5
Total	59.6	40.4	100.0

Source: Field Study, 2017-2018

The above table 4.44 depicting overall 59.6 percent of out-migrants did not experience migration before out-migration, while 40.4 percent had earlier migration experience. This is the crucial reason for them to collect the destination of work from *Thikadar*.

4.2.21. Seasonal Characteristics of Rural Out-Migrants

The field study depicted that 27.2 percent of the migrated respondents migrated in November month, 20.6 percent in October, and 7.4 percent in September month while most of them (44.9%) respond they have no fixed time to out-migration from their origin. Respondents having cultivated land, after completing the *boro* cultivation season and after *Durga Puja,* they migrated to their destination. Moreover, they returned their home in March, April, and May month. Similarly, 51.5 percent of respondents did not have a fixed return time to the origin.

Table 4.45: Month-Wise Percentage Distribution of Out-Migration and Return Migration

Month of Out-Migration	Percent	Return Month of Out-Migration	Percent
September	7.4	March	11.9
October	20.6	April	6.0
November	27.2	May	30.6
Others	44.9	Others	51.5
Total	100.0	Total	100.0

Source: Field Study, 2017-2018

Both the temporary or permanent change of labour migration is "a routine part of agricultural productivity" (Mendola, 2010). The following table 4.51 depicting the distribution of rural out-migrants according to their choice of destination.

Table 4.46: Percentage Distribution of Time of Rural Out-Migration According to Destination

Destination	Time of Out-Migration (%)				Total (%)
	September	October	November	Others	
Rural areas of Koch Bihar district	0.0	5.9	2.9	3.7	12.5
Urban areas of Koch Bihar district	0.0	1.5	0.0	5.9	7.4
Rural areas of other districts of State	.7	.7	.7	5.1	7.4
Urban areas of other districts of State	2.2	2.2	5.1	8.1	17.6
Rural areas of other state	0.0	0.0	11.8	.7	12.5
Urban areas of other state	**4.4**	**10.3**	**6.6**	**21.3**	**42.6**
Total	7.4	20.6	27.2	44.9	100.0

Source: Field Study, 2017-2018

The above calculation of Chi-Square test χ^2 (15, N=272) =123.677, and Cramer's V is .389, $p<0.001$, and H_o rejected it the duration of rural out-migration is not equal for all out-migration. Around 42.6 percent of the out-migrant respondents are visited urban areas of other states as a destination with any particular months of the year (table 4.46). So, the hypothesis is proved that there is a sign of seasonality in migration streams from rural areas to urban areas. The seasonal rural out-migration has become a significant weapon to fight aginst unemployment. Peoples are moving one place to another place for reducing poverty and attain better socio-economic opportunities (Islam et al. 2019).

Table 4.47: Percentage Distribution of Return-Time of Rural Out-Migration According to Destination

Destination	Return-time to the House of Out-Migrants (%)				Total (%)
	March	April	May	Others	
Rural areas of Koch Bihar District	3.7	0.0	0.0	9.0	12.7
Urban areas of Koch Bihar District	0.0	2.2	.7	4.5	7.5
Rural areas of other Districts of State	1.5	0.0	.7	5.2	7.5
Urban areas of other District of State	1.5	3.0	2.2	10.4	17.2
Rural areas of other State	0.0	0.0	11.9	.7	12.7
Urban areas of other State	5.2	.7	14.9	21.6	42.5
Total	11.9	6.0	30.6	51.5	100.0

Source: Field Study, 2017-2018

Similarly, table 4.47 shows the return-time to the home of rural out-migrants; where about 50 percent of the respondents revealed that they backed their home from March to May every year while 50 percent of them did not fix a time to return their home. The result of Chi-Square test χ^2 (15, N=272) =139.405, p<0.001 and H_o rejected which shows there is also a sign of seasonality of rural out-migration and return-time of rural out-migration. Scholars Rogaly et al. (2001) depict in their research work of West Bengal, most rural out-migrants are engaged in rice farming and have decided to migrate for few months (temporary migration) for their economic and social development. So, seasonal migration is an essential type of out-migration for human migration. The majority of migrants are moving towards the urban area for their selective months (Rogaly, 1998; Hampshire, 2006), and it is a significant component of livelihood strategy (Asfaw et al. 2010).

4.3. Conclusion:

The above tables and figures have been discussed the comparative characteristics of the social and economic condition of migrant and non-migrant households. The study reveals the majority of both migrant and non-migrant respondents are engaged in cultivation. Mainly, the district's economy depends on agriculture and its related activities. Different socio-economic features identify that low level of income generation, lack of land, educational status, housing characteristics, etc., are the dominant factors affecting out-migration from the rural Koch Bihar district's peoples. The significant findings are discussed below;

1. Out of all respondents, 86.4 percent were male, and the remaining 13.6 percent were female. Moreover, out of this, 68.3 percent were overall migrant respondents, and 31.7 percent were non-migrants. The majority of the migrant respondents were male and only 8 percent were female migrant respondents in Koch Bihar district.

2. 97.2 percent of total respondents belonged from dependent age group populations, while 98.2 percent were dependent migrant respondents. So, rural out-migration in the district is age and gender selective.

3. Out of all CD block, Sitalkuchi (19.1%) having higher percent of out-migrant respondents due to the unemployment and unavailability of job opportunities whose age lies less within 15 to 65 years.

4. The current study reveals out of all migrant respondents, 65.4 percent are Scheduled Caste (SC), 2.9 percent are Scheduled Tribe (ST), 27.9 percent are Other Backward

Class (OBC), and the rest of 3.7 percent are other caste or General Caste respondents.

5. Out of all migrant (68.3%) respondents, 54.3 percent are married, and 13.6 percent are unmarried. The rest of them widowed, while of all non-migrants (31.7%), 25.6 percent are married and 5 percent are unmarried respondents

6. majority percent of married migrated respondents from Sitalkuchi (18.5%) followed by Tufanganj-I (13.9%), Koch Bihar-I (13%), and Dinhata-II (10.2%) and so on. The majority percent of non-migrant married respondents are found from Sitalkuchi (29.4%) block whereas 2 percent at Mathabhanga-I. Similarly, 30 percent unmarried and 50 percent widowed persons are found from Sitalkuchi block.

7. Out of this, 68.3 percent are Hindu respondents are migrants and 28.1 percent are non-migrant respondents. Out of all Muslims, 6.5 percent of respondents are migrants, and 3.5 percent are non-migrants.

8. So, it is clear from the overall migrant respondents 43.4 percent having 3 to 5 family members, 40.2 percent having less than 3 family members, and 16.1 percent having more than 5 members in a family. Similarly, in non-migrant respondents, the majority (44.4%) have 3 persons in a family.

9. Out of all migrants (100%), 27.9 percent respondents have completed the primary education level, whereas it was 27 percent for non-migrant respondents.

10. Overall, 58.3 percent of the migrants are nuclear families, and 10.1 percent are joint families. Overall, 13.6 percent and 18.1 percent of non-migrants are nuclear and joint family structure.

11. Out of 68.3 percent of the migrant respondents, 13.6 percent are engaged with cultivation, and 18.6 percent are cultivated labour, whereas 6.5 percent of the cultivator and 5.5 percent are agricultural labour for non-migrants (31.7%) in the district. Comparatively, it has been observed that both migrant and non-migrant respondents are engaged with agriculture and household-based industry-related activities in the district.

12. The study noted that 78.7 percent migrant households' income under 5000 rupees per month out of all migrants. Majority percent of non-migrants monthly income range rupees 5000-10000 per month.

13. 52.2 percent of migrant and 44.4 percent of non-migrant households are collected debt or loans from different agencies like banks, co-operatives, money-lenders, SHGs.

14. Out of all migrants, 44.1 percent have to migrate their individual decisions, while 40.4 percent are males and 3.7 percent are females. The study also found that their parent decision migrates 17.6 percent of respondents while 14 percent are male and 3.7 percent are female migrated respondents.

15. 27.2 percent of the migrated respondents migrated in November month, 20.6 percent in October, and 7.4 percent in September month while the majority of them (44.9%) respond they have no fixed time to out-migration from their origin. Respondents having cultivated land, after completing the *boro* cultivation season and after *Durga Puja,* they migrated to their destination. Furthermore, they returned their home in March, April, and May month. Similarly, 51.5 percent of respondents did not have a fixed return time to the origin.

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CHAPTER-5

TREND AND PATTERNS OF RURAL OUT-MIGRATION IN THE DISTRICT

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5.1. Introduction:

The process of migration is not a new phenomenon, and it is a continuous process (Ghosh, 2009; Mahapatro, 2014) that is changing the present scenario of population distribution (Connor et al. 2013). A researcher like Kapur (2010); Lusome and Bhagat (2006) pointed out that the worldwide process of urbanisation, industrialisation, development of transport and communication, etc. having a remarkable influence on migration. Roseman, in the year 1971, in the journal "Annals of the Association of American Geographers," the "migration is a form of human movement through space," which is the "spatial and temporal process." India is one of the oldest civilisations globally, which had a significant history of migration worldwide. After independence, the re-distribution of population and different social, economic, and demographic factors changes migration from before (Rele, 1969). In this regard, the out-migration pattern study is significant for understanding peoples' movements within the country and is influenced by different socio-economic and political determinants (Singh, 1998). Moreover, the migration pattern will have to analyse the future re-distribution of the population of any place (Lusome and Bhagat, 2006) which estimation depends on birth, death, and internal migration (Chakravarty, 1997).The industrial and "economic development" of India's various regions affect the population's movement (Lusome and Bhagat, 2006). Different studies (Rele, 1969; Fassmaan and Munz, 1992; Mahapatro, 2010; Chandrasekhar and Sharma, 2015; Malhotra and Devi, 2016; Bhagat, 2016) found that migration is a universal phenomenon that is changing from time to time and affects the overall economy as well social development of a country. This chapter shows the changing "trend and pattern of out-migration" in India with particular reference to Koch Bihar district of West Bengal.

5.2. Changing Trend and Pattern of Migration:

5.2.1. India

The study has been done on the trends of migration in India from international and internal migration. International Migration: It can be classified into two categories, viz., migration in pre-independence and migration in after-independence. The occurrence of migration in the country is not a new phenomenon. It has been occurring since the time of emperor Ashoka

(268-231 BC), who sent his message-carrier across the globe to escalate the essence of "peace" in the light of "Lord Buddha." The structured migration flow from the country was started during the British period. After slavery was abolished, densely populated India was exploited by the British and Dutch colonies, which started the semi-slave-trade and supplied Indian labours to newly developed plantation agriculture areas of Malaysia, Sumatra, Fiji, South Africa, Mauritius, Singapore, etc. (Chandna, 2008). The workers for plantations in Fiji, Surinam, and Mauritius were enlisted from Bihar, UP, whereas workers from Punjab and Gujarat were enlisted to Guyana and East Africa. Most of the Tamil labourers were sent French, South Africa. In the time of the British colonies in India, most labourers were sent to the strengthened factory areas like the UK, North America, etc. Around 30 million Indians emigrated to the various regions of the globe from 1800 to 1945.

After independence during 1950 to 2000s, the trend of migration towards the developed countries like the USA, Canada, Australia, Japan, Germany, and Newzealand increased rapidly. India marks the highest number of international migrants in the world. For the receiving of annual foreign remittances, India ranked number one out of all countries (Rajan and Arokkiaraj, 2019) and is "leading country of the origin of International migrants" (the report of UN (2019). As per UNDESA (United Nations Development of Economic and Social Affairs) reports (2019), India constitutes 17.5 million international migrants, which is the largest diaspora followed by "Mexico (11.8 million), China (10.7 million), Russia (10.5 million), Syria (8.2 million), Bangladesh (7.8 million), Pakistan (6.3 million), Ukraine (5.9 million), The Philippines (5.4 million)" (The Economic Times,2019).

The "second trend of labour emigration from India" to the Gulf-countries was beginning in the 1970s. After the Second World War, only 14000 Indian migrants visited the Gulf-countries (Jain, 2005). The small number of immigrants andthe later improvement of infrastructural development like schools, colleges, houses, hospitals, and improvement of transport and communication had attracted huge emigrants from India (Ahn, 2005). In 1991, India's labour outflow was increased from 197889 to 416784 in 1992 to countries like Bahrain, Kuwait, Oman, Saudi Arabia, U.A.E, and Others. Causes of migration in India have been reduced unemployment, underemployment, and changed occupational mobility and creation of new enterprises (Jain, 2005). The "India-Gulf migration is corridor is the second largest corridor of the world" where according to GoI, Ministry of Affairs, 2018 depicted that "nearly 31 million non-resident Indians, an estimated 8.5 million are working

in the Gulf," which was nearly 30 percent of the total workforce from India (Calabrase, 2020). Percot and Rajan (2007) also noted that Kerala's state depicted half of four million emigrants to the Gulf countries.

Internal Migration: History of internal migration in India focused on the very low intensity of migration before the British colonial rule due to the lack of transport and communication. The majority of peoples depended on rural cultivation and fulfilled their needs from agriculture. After starting the British colony in India's improvement of transport and communication with industrialisation, peoples' internal moving was increased. Moreover,while the Bengal, Assam, and Bombay provinces were the primary sources of immigration,Mysore, Bihar, and Orissa were the out-migration centers. This has also been depicted that the pattern of out-migration in India was similar within 1891 to 1921, but after 1931 some new centers like Delhi, Bikaner, etc., came up (Negi and Ganguly, 2002). The sending places had different push factors like low economic and social status, and people had to decide the places with higher wages. The Bengal having both agriculture and industrial than Bihar, Bihar peoples attracted to Bengal higher the higher earnings (Yang, 1979). After India's partition (1947), approximately 14.5 million emigrants migrated between India and Pakistan,the "rapid and largest migration in human history" where approximately 7.3 million immigrants to India from Pakistan. The significant impact of separation was the rapid change of population growth, which significantly affected"educational, occupational and gender composition within four years" (Bharadwaj et al. 2008; 2009). The "New Economic Policy" of India, widely well known as "Liberalisation of Indian Economy" (1991) which reduces the governmental expenditure, reduce the fiscal deficit, removal governmental control, encouraging private participation and licensing of the industry, which would increase the internal migration in India (Bhagat, 2011). The latest census of India 2001 focused that rural-urban population movement is the significant factor of urbanisation (Bhagat and Mohanty, 2009) and focused that the push factor is not a more influential factor for internal migration. Furthermore, it was also observed that poor and disadvantaged people are more migrating than non-poor and advantaged peoples (Bhagat, 2011).

Table 5.1: Recent Trend of Internal Migration in India (1971-2011)

Year	Migrants in Million			Migrants in percentage (%)		
	Total	Males	Females	Total	Males	Females
1971	159.60	49.60	110	30.6	19	43.1
1981	201.60	59.20	142.4	30.3	17.6	43.9
1991	225.90	61.10	164.8	27.4	14.6	41.2
2001	314.50	93.40	221.2	30.6	17.5	44.6
2011	455.80	146.10	309.6	37.6	23.4	52.7

Source: Census of India

Figure 5.1: Recent Trend of Internal Migration in India, 1971 to 2011
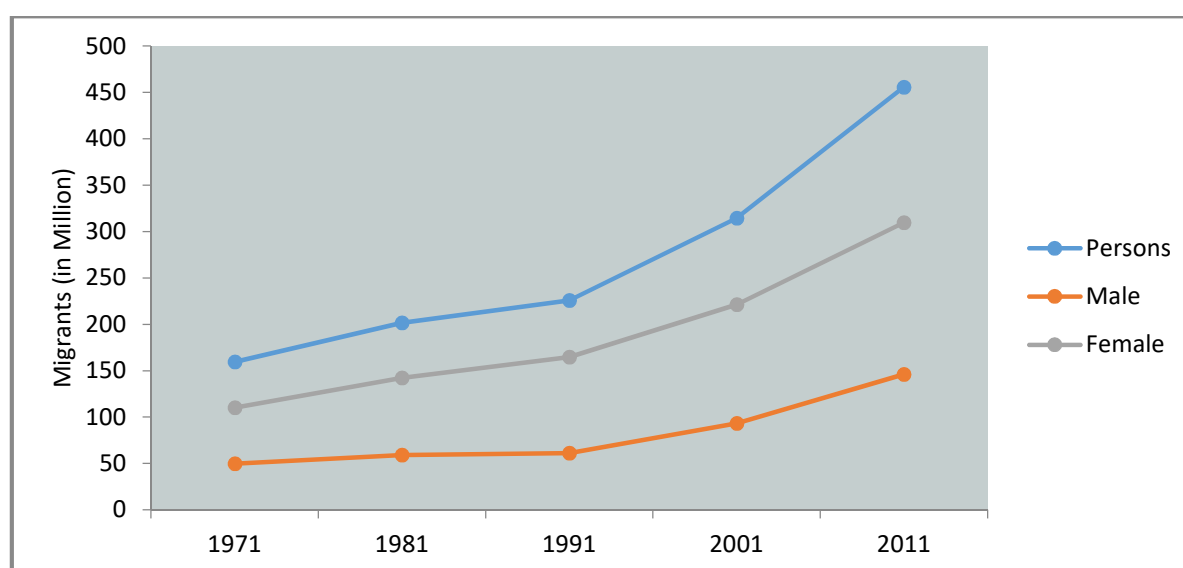
The above table 5.1 and figure 5.1 depict the internal trend of migration in India from 1971 to 2011. The 1971 census has shown that 159.6 million persons were migrants while 46.6 million were male and 110 million were female migrants. The figure was increased by 225.9 million in 1991. In 2001 it was 314.5 million that increased to 455.8 million in the last Census 2011, revealing 139 million.

Table 5.2: Trend of Internal Migration from 1971 to 2011, India

Year	Person (%)	Male (%)	Female (%)
1971-1981	26.32	19.35	29.45
1981-1991	12.05	3.21	15.73
1991-2001	39.24	52.80	34.21
2001-2011	44.91	56.54	40.00
1971-2011	64.98	66.06	64.48

Source: Census of India

From 1971 to 1981, the overall 26.32 percent migrants increased, slowing down to 12.05 percent from 1981 to 1991. The growth rate of male migrants observed 52.80 percent

in 1991-2001. The growth rate of overall migration from 2001 to 2011 was 44.91 percent, where 56.54 percent of them were males, and 40 percent were females' growth. The census also depicts that 64.98 percent of the overall migration growth has been observed from 1971 to 2011. It also found that 66.06 percent and 64.48 percent of male and female growth rates were observed in India.

India's inter-state migration indicatesa small migration stream than intra-district and inter-district migration (Kundu and Mohanan, 2017). However, as per the Census 2011, inter-state migrants constitute 12 percent of the total migrants. In the report, NSSO, 2007-08, the inter-state migrants were 11.5 percent, 10.3 percent in 1999-2000. Different Census report (1971, 1981, 1991, 2001 and 2011) shows that the intensity of "rural-rural migration"being most critical flow in the country. In these cases, it has been observed that females are more migratory than males. A large number of females are migrated within the district due to marriage-related reason, while the majority of the males are out-migrated to the other districts due to the low agricultural activity to the sparsely populated area having the developmental activities (Premi, 1990; Lusome and Bhagat, 2005; Singh, 2012).

5.2.2. West Bengal

Internal migration generally refers to relocating residence from one region to another within the national geographical boundary. It is a form of spatial interaction for the varying "level of socio-economic development,"It is connected with migration (Bagchi, 1982). Internal migration plays a vital role in "national well-being" due to the socio-economic and demographic spin. It very well may be a prevailing determinant in examples of the populace and work development and decrease inside nations which recognised as crucial to the proficient working of economies and lodging markets, too empowering people and families to accomplish their objectives and goals (Bell et al. 2015; Green, 2017). Migration is a complex network where the movements and flow links are connected. There are three spatial distinctions in measuring migration viz., quantitatively, locationally, and directionally (Schwind, 1975). According to Kirk (1970), migration deals with forced migration, free migration, and internal migration. Moreover, he defined that "forced migration, whether the legacy of World War II or the creation of post-war upheavals; second to free migrations and especially the overseas movements affecting Europe and Asia; and finally, to the significance of internal migration in the post-war period." Bagchi (1982) reveals the behavioural aspects of migration in West Bengal dealt with the following headings;

a) Inter-district movements of peoples

b) Movements of peoples from other states of India to West Bengal

c) Movement of the displaced person from East Pakistan (Forced migration)

d) Movement of peoples with different parts of the worlds generally known as international migrants

5.2.2.1. Out-Migration (1951-1971)

The study found that due to the increase of unemployment, poverty, the pressure of population, lack of land, etc. factors push the peoples to migrate to other places while some places having good job opportunities, good educational facility, better employment, etc. are produced the new impulsion making spatial activity (Mahapatra, 2017). The following table 5.3 depicting the rate of district-wise out-migration from 1951 to 1971.

Table 5.3: District-Wise Distribution of Changing Trend of Percentage of Out-Migrants to District Total Population (1951-1971)

District	Out-Migration (%)		
	1951	1961	1971
Darjeeling	2.84	3.85	4.39
Jalpaiguri	1.11	2.36	1.53
Koch Bihar	**2.25**	**3.33**	**1.67**
West Dinajpur	1.55	1.95	1.09
Maldah	3.30	5.32	2.01
Murshidabad	3.98	5.91	3.76
Nadia	5.77	6.84	5.48
Twenty-Four Parganas	2.95	2.96	2.44
Howrah	9.53	9.33	5.86
Hoogly	7.95	6.60	4.98
Burdwan	5.12	5.12	3.88
Birbhum	13.06	6.37	5.71
Bankura	7.14	7.55	6.97
Medinipur	6.02	0.38	3.63
Puruliya	-	3.46	3.92

Source: Census of India, 1951, Vol. 6, Pt. I A. Report, Census of India 1961, Vol. 16, Part IA. Report and Census 1971

The Census reports have shown that most districts indicate the increase of the percentage of "out-migration" to the total population. In 1951, the Birbhum district showed 13.06 percent of the population while it was changed into 6.37 percent in 1961 and 5.71 percent in 1971. The report also shows that all the North Bengal region districts' increasing out-migration trend from 1951 to 1961. The district Koch Bihar had shown 2.25 percent of out-migration in 1951, which had change into 3.33 percent in 1961 (figure 5.2). The volume of migration has been changed due to the partition of India. However, there was a significant

change of out-migration in West Bengal in 1971 for the "Indo-Pak war." In this time, millions of peoples immigrated to the different West Bengal districts and the north-eastern state of Assam. The peoples were 'forced migrants,' and the peoples have quickly adjusted to similar geographical, socio-cultural, and linguistic linkages. This cross-border migration has increased as the flow has been mainly unilateral and continuous. This intensity has changed over time, and variations have been due to various reasons. There has been a debate on cross-border migration, and migrants are called refugees or illegal migrants (Sarkar, 2010; Ghosh, 2013).

Figure 5.2: District-Wise Changing Trend Out-Migration in West Bengal (1951-1971)
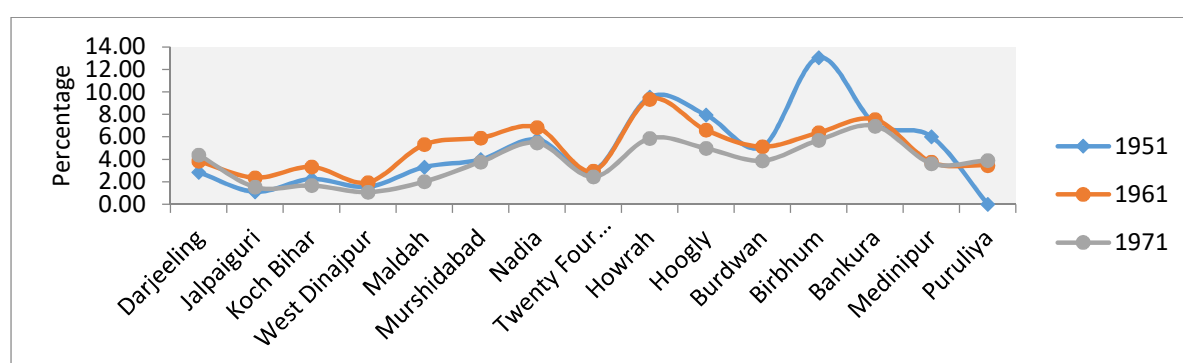
Table 5.4: Changing Trend of Out-Migrants in (1981-1991) West Bengal

District	1981 (%)	1991(%)
Darjeeling	3.33	2.24
Jalpaiguri	2.52	2.10
Koch Bihar	**2.77**	**2.33**
West Dinajpur	1.49	1.59
Maldah	3.99	2.57
Murshidabad	4.75	3.97
Nadia	6.22	5.48
Twenty-Four Parganas	2.07	3.03
Howrah	6.60	6.45
Hoogly	5.92	6.13
Burdwan	4.84	5.94
Birbhum	5.60	5.15
Bankura	7.40	7.02
Medinipur	3.78	2.72
Puruliya	3.87	3.40

Source: Census of India D-Series, 1981 and 1991; Primary Census Abstract 1981 and 1991.

The figure 5.2 shows that the southern district, namely Howrah, Hoogli, Burdwan, etc., had established industries after 1961, which reduces the out-migration from the said district. Relatively the district Puruliya has shown an increase in out-migration in every decade.

Figure 5.3: District-Wise Changing Trend of Out-Migration in West Bengal (1981-1991)
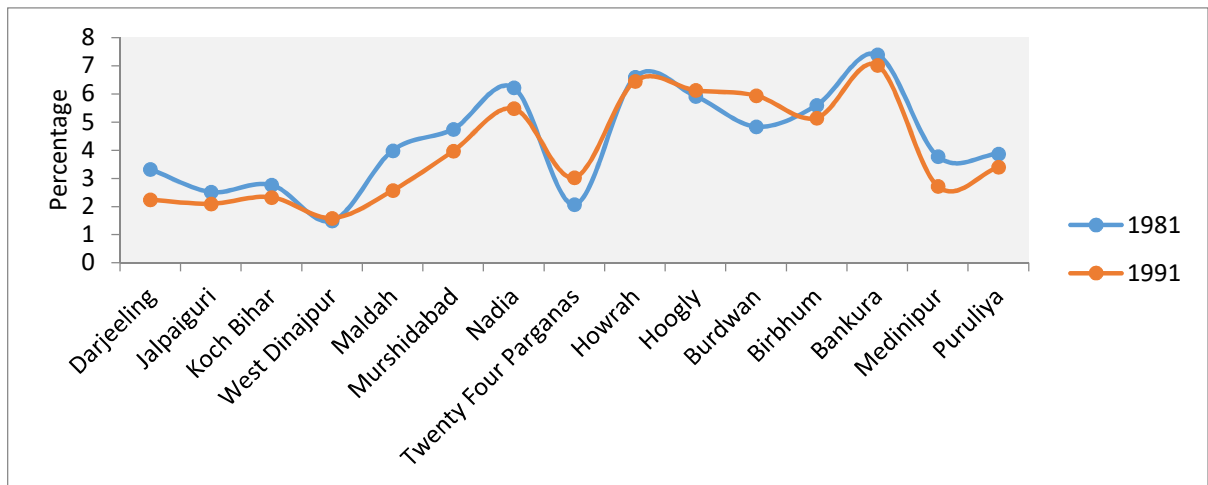
Figure 5.4: District-Wise Changing Trend of Out-Migration in West Bengal (2001-2011)
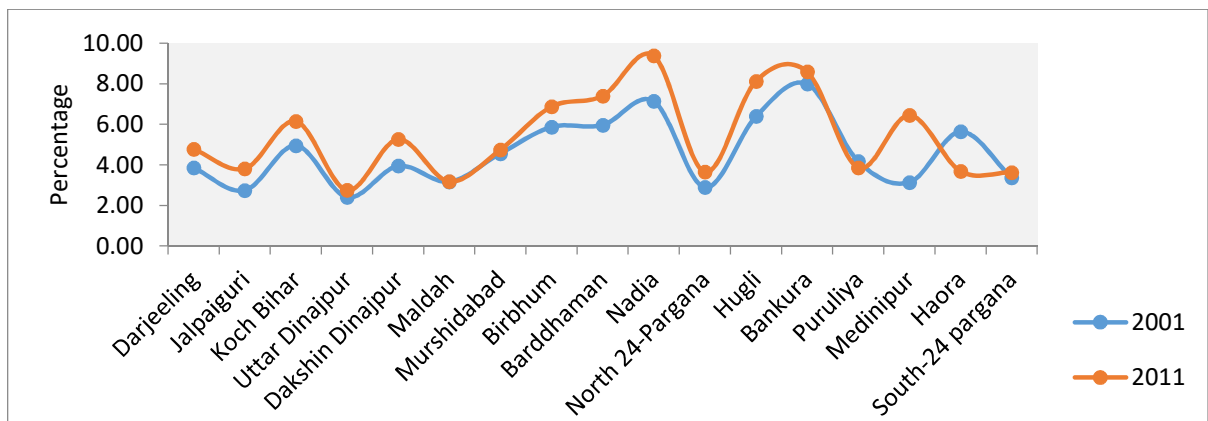
5.2.2.2. Out-Migration (1981-1991)

The Census 1981 focused on increasing the percentage of out-migrants from the last decade in Koch Bihar district. According to the Census 1971, 1.67 percentof the district's total population was changed into 2.77 percent in 1981. There was a negative change of out-migration has been observed in 1991. In the decade 1981 to 1991, the majority number of districts out-migration decreases to the district population.

Table 5.5: Changing Trend of Out-Migrants in West Bengal (2001-2011)

District	2001 (%)	2011 (%)
Darjeeling	3.86	4.78
Jalpaiguri	2.74	3.81
Koch Bihar	4.96	6.15
Uttar Dinajpur	2.41	2.75
Dakshin Dinajpur	3.95	5.26
Maldah	3.16	3.18
Murshidabad	4.56	4.75
Birbhum	5.87	6.87
Barddhaman	5.96	7.40
Nadia	7.14	9.38
North 24-Pargana	2.89	3.65
Hugli	6.39	8.13
Bankura	7.99	8.59
Puruliya	4.17	3.86
Medinipur	3.14	6.45
Haora	5.64	3.69
South-24 Pargana	3.37	3.63

Source: Census of India D-Series, 2001 and 2011; Primary Census Abstract 2001 and 2011.

5.2.2.3. Out-Migration (2001-2011)

The data from the Census 2001 and 2011 have shown the changing scenario of out-migrants regarding the total district population in table 5.5. The above table focused that the increase in out-migration is higher than in the previous decades. The Census of 2001 depicts 4.96 percent of out-migrants to total district population, which has been changed into 6.15 percent in 2011. The Census 2001 reveals that the Bankura district hada higher percentage (7.99%) of out-migration to total district population whereas 2011 shows Nadia district (9.38%) having a higher rate of out-migration in given table 5.5.

Table 5.6: Changing Trend of Male-Female Out-Migrants to District Total Population, Koch Bihar, "1981-2011"

Year	1981	1991	2001	2011
Male (%)	1.65	1.75	3.61	4.01
Female (%)	2.66	2.96	6.37	8.42

Source: Census of India D-Series, 2001 and 2011; Primary Census Abstract 2001 and 2011.
*Persons born and enumerated in districts of the state and the data have been computed.

Figure 5.5: Changing Trend of Male-Female Out-Migrants to Total Population, Koch Bihar District, 1981-2011
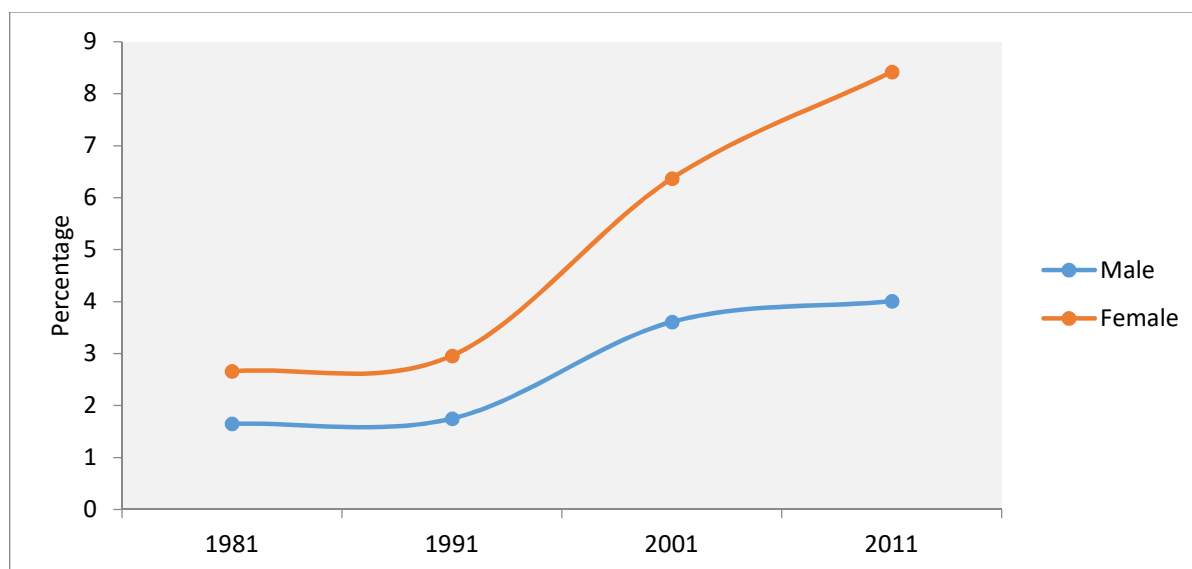
Table 5.7: Changing Trend of Percentage of Rural Out-Migrants to District Rural Population, 2001-2011

District	Persons (%) in 2001	District	Persons (%) in 2011
Darjeeling	2.35	Darjeeling	2.46
Jalpaiguri	1.91	Jalpaiguri	3.00
Koch Bihar	**3.23**	**Koch Bihar**	**3.36**
Uttar Dinajpur	1.88	Uttar Dinajpur	1.99
Dakshin Dinajpur	2.98	Dakshin Dinajpur	3.64
Maldah	2.28	Maldah	2.22
Murshidabad	3.23	Murshidabad	3.58
Birbhum	3.90	Birbhum	4.65
Barddhaman	5.83	Barddhaman	7.15
Nadia	4.40	Nadia	5.86
North 24-Pargana	3.15	North 24-Parganas	3.94
Hugli	5.23	Hugli	7.10
Bankura	5.03	Bankura	5.34
Puruliya	2.87	Puruliya	2.44
Medinipur	1.59	Haora	6.90
Haora	4.79	South 24-Parganas	1.68
South-24 pargana	1.27	Paschim Medinipur	3.75
		Purba Medinipur	2.63

Source: Census of India D-Series, 2001and 2011; Primary Census Abstract 2001 and 2011.
*Persons born and enumerated in districts of the state and the data have been computed.

Table 5.8: Changing Trend of Percentage of Male-Female Rural Out-Migrants to District Rural Male-Female Population, 2001-2011

District	2001		District	2011	
	Male (%)	Female (%)		Male (%)	Female (%)
Darjeeling	1.57	3.17	Darjeeling	1.13	3.83
Jalpaiguri	0.90	2.99	Jalpaiguri	1.12	4.97
Koch Bihar	2.01	4.52	Koch Bihar	1.55	5.28
Uttar Dinajpur	0.75	3.07	Uttar Dinajpur	0.60	3.46
Dakshin Dinajpur	1.27	4.78	Dakshin Dinajpur	1.00	6.42
Maldah	1.51	3.10	Maldah	1.16	3.34
Murshidabad	1.68	4.85	Murshidabad	1.50	5.77
Birbhum	1.15	6.80	Birbhum	1.42	8.03
Barddhaman	1.82	10.09	Barddhaman	2.22	12.30
Nadia	1.87	7.09	Nadia	2.45	9.48
North 24-Pargana	1.25	5.16	North 24-Parganas	1.40	6.61
Hugli	1.19	9.39	Hugli	2.09	12.29
Bankura	1.53	8.71	Bankura	1.28	9.59
Puruliya	1.46	4.33	Puruliya	0.71	4.25
Medinipur	0.79	2.43	Haora	2.08	11.96
Haora	1.54	8.17	South 24-Parganas	0.58	2.85
South-24 Pargana	0.54	2.04	Paschim Medinipur	0.83	6.77
-	-	-	Purba Medinipur	0.82	4.56

Source: Census of India D-Series, 2001 and 2011

Figure 5.6: Changing Trend of Percentage of Male-Female Rural Out-Migrants to District Rural Male-Female Population, 2001-2011
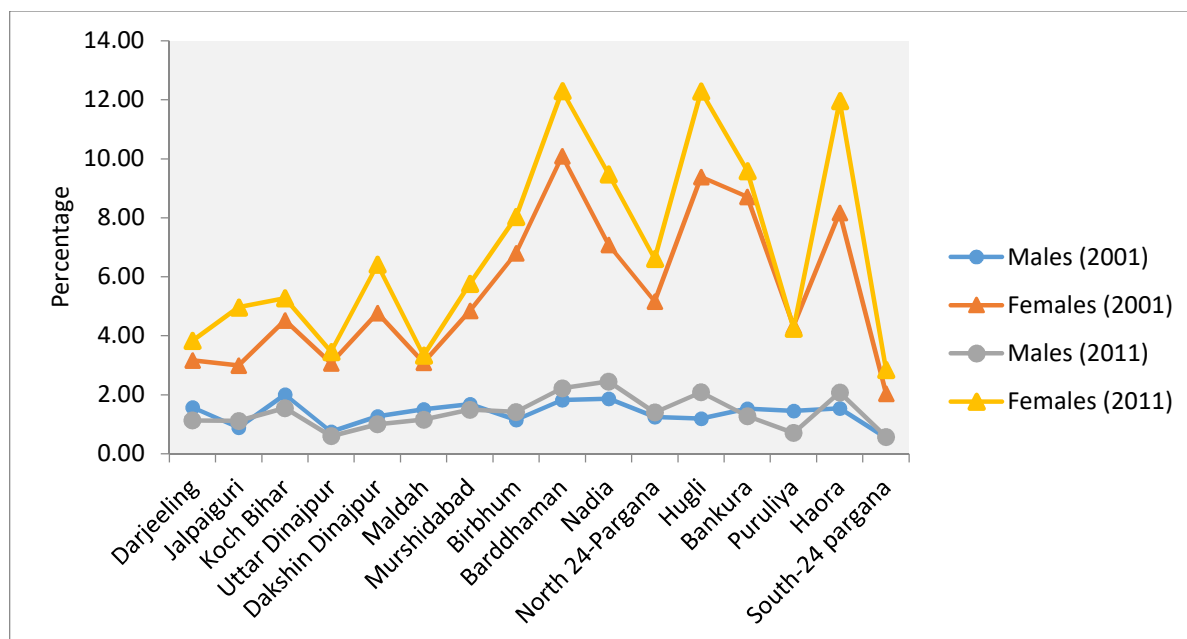
Table 5.9: Trend of Percentage of Variation of Rural Out-Migration from 2001 to 2011

District	Variation of Rural Out-Migration (%)
Darjeeling	7.68
Jalpaiguri	57.80
Koch Bihar	**16.56**
Uttar Dinajpur	30.42
Dakshin Dinajpur	34.79
Maldah	9.79
Murshidabad	23.37
Birbhum	31.89
Barddhaman	30.74
Nadia	37.03
North 24-Pargana	30.92
Hugli	37.23
Bankura	18.27
Puruliya	-4.43
Haora	20.73
South-24 Pargana	38.85

Source: Census of India D-Series, 2001 and 2011
Data have been computed by the researcher.

The above table 5.6 and figure 5.5 depicting the percentage of male out-migration in 1981 was 1.65 percent which changed to 4.01 percent in 2011. The percentage of female out-migration was 2.26 in 1981, which increased to 8.42 percent in 2011 in Koch Bihar district, proving that the percentage of out-migration of both the males and females is gradually increasing every decade.

Table 5.7 depicting the rural out-migration of Koch Bihar district in 2001 was 3.23 percent increased to 3.36 percent while table 5.8 shows focused the out-migration of the rural male in 2001 was 2.01 percent reduced to 1.55 percent in 2011. The percentage of female migration in 2001 was 4.52 percent which changed to 5.28 percent in the Koch Bihar district. Other districts, namely; Barddhaman, North Twenty-Four Pargana, Hugli, and Haora, have more than 2 percent male rural out-migration to the district's total rural population in 2011 than 2 percent in 2001 census. The tendency of "inter-district" and "intra-district" female out-migration from rural areas is highly observed than male rural out-migration in every district of West Bengal. Table 5.9 focusing the decadal variation of rural out-migration from 2001 to the latest Census of West Bengal, which showing the highest decadal variation (2001-2011) has been observed in the northern district of Jalpaiguri

(57.8%), followed by South 24-Pargana (38.85%), Hugli (37.23%), Nadia (37.03%) and so on. The Koch Bihar district is showing a 16.56 percent increase in rural out-migration from 2001. Only the Puruliya district is showing the negative variation of rural out-migration in the year 2001 to 2011.

5.3. Emerging Pattern of Out-Migration in Koch Bihar District

In the present scenario, globalisation, urbanisation, socio-economic changes, etc., are pulled into urban areas. An emerging migration pattern reveals the "confinement of migrants in lower socio-economic class in urban India in response to the macroeconomic reforms" (Mahapatro, 2012). There are enormous causes for the variations of changes in migration rate in Koch Bihar and the country. Generally, due to the increase of unemployment, poverty, population explosion, lack of land for cultivation, environmental problems, and shortage of natural resources, push factors create helps to migrate peoples from one place to another. Simultaneously, different pull factors like urbanisation, better work facilities, educational facility, occupational pattern diversity, higher wages, etc., attracted more peoples towards a new destination and established spatial mobility. The 2011 Census of India reported that the country has 161.42 million migrants whose residence duration 0-9 years; this was 98.3 million in the Census 2001 with a 64 percent growth rate. In this concern, the Census of India, 2011 focusedon the rural peoples are more likely to migrate than urban peoples. Out of this, 88.3 million are rural, and 73.1 million are urban migrant population in 2011 whereas, in the 2001 Census, there were 61.8 million and 36.5 million rural and urban migrants, respectively. Out of all migration streams, rural to rural migration is still dominant, accounting for 69.1 million migrants in 2011 and about 53.3 million in the 2001 Census.According to the last census, the second most dominant stream of migration is urban to urban migration, which is accounted for 32.94 million while it was 14.3 million migrants in 2001, which increased more than 18 million migrants. The third significant migration stream is rural to urban, called 'rural-push' and accounted for more than 33 million migrants. So, it has appeared that the lowest volume of migrants accounted urban to rural, which is called 'reverse movement,' and it has been shown the considerable change of migration stream in the year 2001-2011 (Ansary, 2018). The NSSO 64th Round (2007-2008) depicted nearly 62 percent of migrants migrated rural-rural areas out of all internal migrants.

5.3.1. Streams of Rural Out-Migration

The streams of out-migration from rural Koch Bihar district studied in two ways; rural-rural and rural-urban streams. Data has been computed from the migrant's place of last residence (POLR). The out-migration trend to rural-urban areas increased due to the industrialisation and modernisation of India. Around 2/5th of the total urban population is increasing due to rural-urban population mobility in the developing countries (Bhati, 2015). Census of India focused that male out-migrants are generally moved from rural to urban areas while females dominate rural-rural out-migration.

Table 5.10: Streams of Male-Female Rural Out-Migration from Koch Bihar District

Stream	Gender (%)		Total (%)
	Male	Female	
Rural-Rural	30.9	1.5	32.4
Rural-Urban	56.6	11.0	67.6
Total	87.5	12.5	100.0

Source: Field Survey, 2017-2018.

Table 5.11: Duration and Streams of Rural Out-Migration from Koch Bihar District

Duration	Out-Migration Stream (%)		Total (%)
	Rural-Rural	Rural-Urban	
Less than 1 year	11.0	11.8	22.8
1 to 4 years	13.2	33.8	47.1
4 to 8 years	8.1	22.1	30.1
Total	32.4	67.6	100.0

Source: Field Survey, 2017-2018.

5.3.1.1. Rural-Rural Out-Migration

Generally, the people who have left their house to a new destination like rural or urban areas have socio-economic benefits (Agbonlahor and Phillip, 2015). The study found that out-migrant labours are visited the tea gardens of *Terai* and *hill* region districts like Jalpaiguri, Darjeeling, etc. Some labours are migrated to the rural areas of a tea garden in Sikkim and Assam. According to the Census of India, majority of females travel to rural-rural areas due to marriage-related reasons. From the field report in rural-rural flow, about 30.9 percent and 1.5 percent are males and females out-migrnts respectively. It is also noted that 11 percent migrated for less than one year and are termed temporary migrants. This "temporary migration" is sometimes used as "circular, seasonal, short-term and spontaneous migration" temporary migrant's duration refers to the duration of migration at the destination up to 6 months or less than one year of duration (Keshri and Bhagat, 2012).

5.3.1.2. Rural-Urban Out-Migration

Rural-urban population flow is an essential factor of urban population changes (Bhagat, 2015). Rural-urban out-migration is a situation that is related to economic growth. Rural areas are generally involving agriculture activities, while urban areas involving non-agricultural activities (Papola, 1998). So, in recent years, many young people in rural areas travel to urban areas for different formal and informal work (Srivastava and Bhattacharyya, 2003; Sarkar, 2017) due to different push-factors from rural areas of the district (Greenwood, 1971; Mukherji, 2001). According to Schultz (1971), out-migration is the result of purposeful behaviour. Different studies (De Haan, 1997; Tyagi and Siddiqui, 2016; Lyu et al. 2019) focused that rural unemployment is significant issues for left the rural areas to travel urban areas, and it has been defined as "a survival strategy by the poor" (Ajaero and Onokala, 2013) from rural areas of the district. The above-surveyed result-focused that out-migration from the rural-urban stream is 67.6 percent, where the majority are males, and the remaining 11 percent are females. If we see about the duration and stream of rural out-migration, more than 30 percent of them are migrated towards their destination for 4 to 8 years duration, and 47.1 percent of them are staying 1 to 4 years duration. In this observation from rural Koch Bihar district, most young males have to migrate to other states' urban areas due to higher wages (Barman and Roy, 2019). The urban payments are excessive compared toIndia's rural areas (The Indian Express, 26th March 2016). In this scenario, the country Koch Bihar lacks agricultural labours that demonstratean unwillingness to cultivate cultivators. Moreover, this labour shortage does not affect the smallholder farm families; it generally affected the middle class and largescale commercial farming (Essang and Mabawonku, 1975). So, rural-out migration is often viewed as a "problem" (Papola, 1998).

5.4. Estimation of Projections of Out-Migration in Koch Bihar District

Followed some mathematical rules, the population projection was made by different agencies, planners, or institutions. These projections are based on some assumptions, like a long run of time. The simplest method of projection is based on algebraically. A different method is used for the population projection, such as algebraic and component methods(Srinvasan, 2011). Different growth rates are used in the algebraic method, like "linear growth rate, geometric growth rate, and exponential growth rate." "The growth rate" is high in the "linear growth model" and least in the exponential growth model (Nsowah-nuamah, 2017). For the projection of total out-migrants of different districts of West Bengal,

the linear growth model is used because of its simplicity and high rate of growth among the other growth model (Geometric and Exponential) with assuming the growth rate of the decade (2011 to 2021) is followed by the decadal growth rate of 2001 to 2011. In the linear model, the growth rate (r) defined as;

$$r = \frac{1}{n}\left(\frac{pt - p0}{p0}\right) * 100 \text{--------------------------- (I)}$$

$$r = \frac{1}{n}\left(\frac{TOM2011 - TOM2}{TOM2001}\right) * 100 \text{--------------- (II)}$$

Where,

TOM_{2001} = Total Out-Migrants in 2001

TOM_{2011} = Total Out-Migrants in 2011

n= numbers of years

The Migration projection is always complicated. It changes over time and places which is sometimes very rapidly and sometimes very slowly. So, taking the three linear growth rates, the migrants are projected.

(I)   The Actual linear growth rate,
(II)   If 1 percent increased from linear growth rate,
(III)   If 1 percent decrease from the linear growth rate.

The equation for the population projection by using the linear growth rate model as follow;

$$P_t = P_0 (1+rt) \text{----------------------------- (III)}$$

Where, P_t= Future population, P_0= Present population, r= Linear growth rate and t= Time period

For projecting the migrants using the linear growth rate model, derived three equations. This are;

TOM_{2021} = TOM $_{2011}$(1+rt) -------------------------------- (IV)

TOM_{2021} = TOM $_{2011}$[1+(r$_{+1}$) t] ---------------------------- (V)

TOM_{2021} = TOM $_{2011}$[1+(r$_{-1}$) t] ---------------------------- (VI)

Where, TOM2021 & 2031= Total Out-Migrants in 2021& 2031, TOM2011= Total Out-Migrants in 2011

t= Time period

r= Linear growth rate

r- 1= If 1 percent decreased from linear growth rate

r+1= If 1 percent increased from linear growth rate

Table 5.12: Rate of Out-Migration in Annual Growth Koch Bihar District, 2001-2011

Districts Name	Total Out-Migrants		Annual Growth Rate		
	2001	2011	Linear Growth Rate	If 1 % Decreased	If 1 % Increased
Persons	122859	173467	4.12	3.12	5.12
Males	45960	58257	2.68	1.68	3.68
Female	76899	115210	4.98	3.98	5.98
Rural					
Persons	72826	84883	1.66	0.66	2.66
Males	23234	20217	-1.30	-2.30	-0.30
Female	49592	64666	3.04	2.04	4.04
Urban					
Persons	50033	88584	7.71	6.71	8.71
Males	22726	38040	6.74	5.74	7.74
Female	27307	50544	8.51	7.51	9.51

Source: Migration D-Series, Census of India, 2001 and 2011. Data have been calculated by the researcher.

Table 5.13: Projected Out-Migrants for 2021 and 2031 in Koch Bihar District

Districts Name	Projected Out-Migrants in 2021			Projected Out-Migrants in 2031		
	Linear Growth Rate	If 1 % Decreased	If 1 % Increased	Linear Growth Rate	If 1 % Decreased	If 1 % Increased
Persons	244921	227575	262268	316376	281682	351069
Males	73844	68018	79670	89431	77780	101083
Female	172607	161086	184128	230005	206963	253047
Rural						
Persons	98936	90448	107424	112989	96013	129966
Males	17592	15570	19613	14967	10923	19010
Female	84322	77855	90788	103978	91045	116911
Urban						
Persons	156839	147981	165697	225094	207377	242811
Males	63673	59869	67477	89307	81699	96915
Female	93555	88500	98609	136565	126456	146674

Data have been calculated by the researcher.

Figure 5.7: Projection for Out-Migration in Koch Bihar District

Projection for Out-Migration in Koch Bihar District

Legend:
- Total Out Migrants
- If 1 % increases from Linear Growth Rate
- If 1 % Decreases from Linear Growth Rate
- Rural Out-Migrants
- Urban Out-Migrants
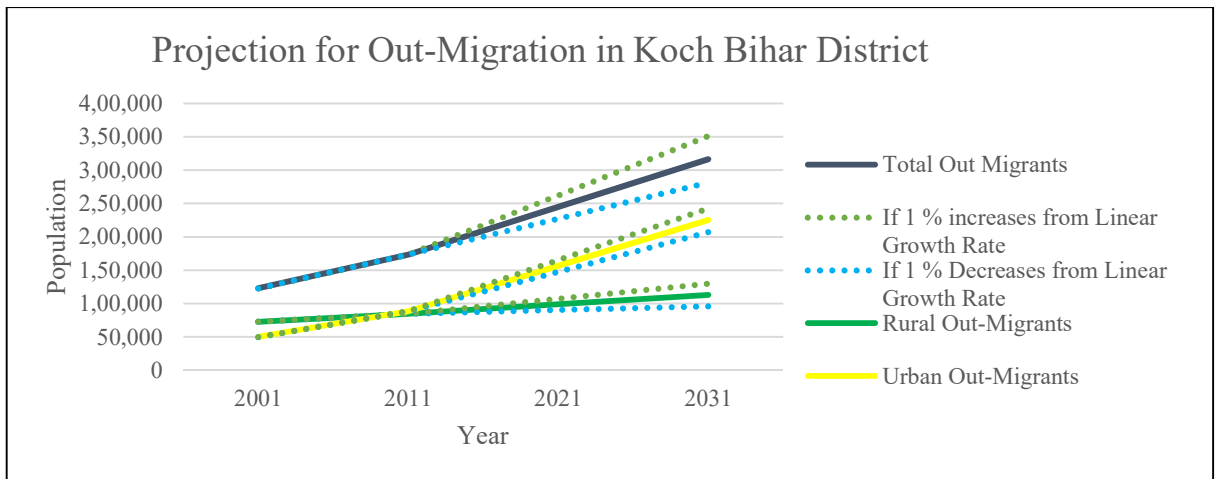
Figure 5.8: Projection for Male Out-Migration in Koch Bihar District

Projection for Male Out-Migration in Koch Bihar District

Legend:
- Total Male Out-Migrants
- If 1 % Decreases From Linear Growth Rate
- If 1 % Increases From Linear Growth Rate
- Rural Male Out-Migrants
- Urban Male Out-Migrants
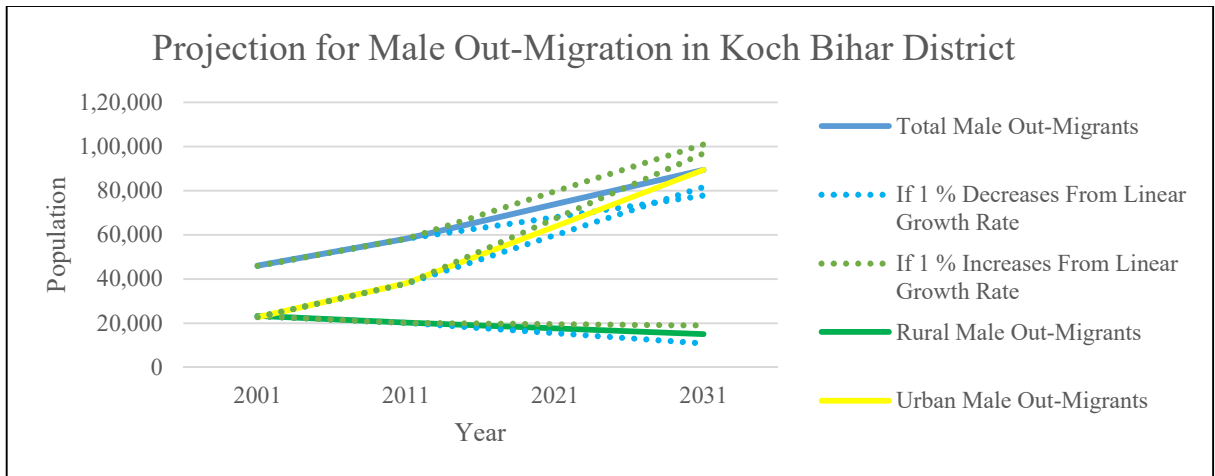
Figure 5.9: Projection for Female Out-Migration in Koch Bihar District

Projection for Female Out-Migrants in Koch Bihar District

Legend:
- Total Female Out-Migrants
- If 1 % Increases From Linear Growth Rate
- If 1 % Decreases From Linear Growth Rate
- Rural Female Out-Migrants
- Urban Female Out-Migrants
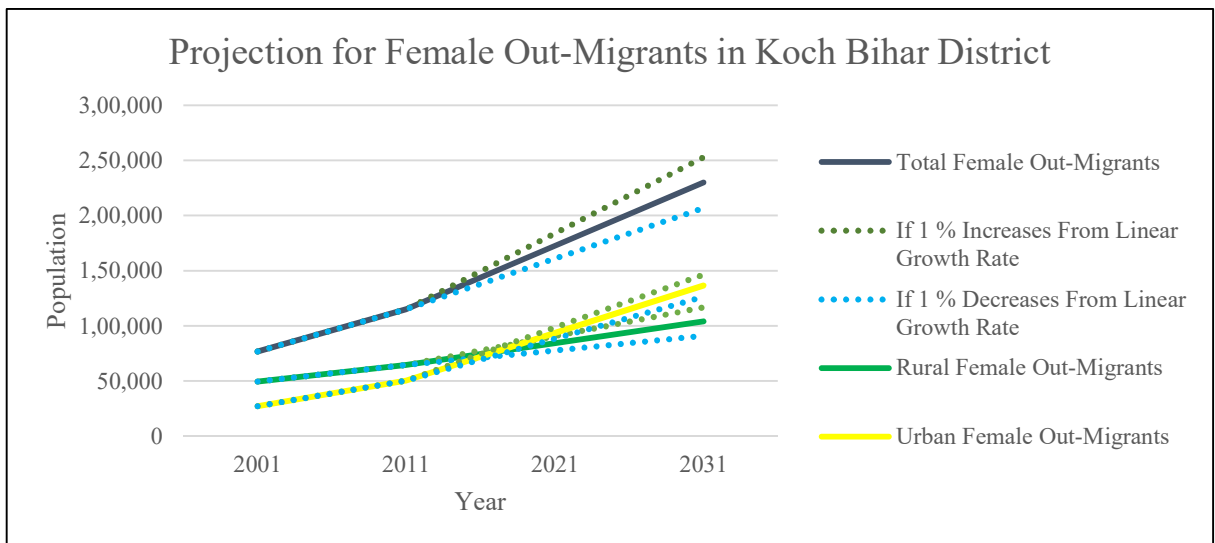
5.4.1 Out-Migrants of Koch Bihar District

The growth rate of out-migration in Koch Bihar district is 4.12 percent annually in the last decade (2001 to 2011). Females' growth rate (4.98 percent) is more than the male (2.68 percent) out-migrants. Applying the linear growth rate model for out-migration projection, it is found that the total out-migrants will be 244921 persons in 2021 and 316376 in 2031. Male and female will be 73844 persons and 127607 persons in 2021 and 89431 male and 230005 female will be in 2031. If the growth rate changes 1 percent passively or negatively, it will be 68018 to 79670 persons in rural and 161086 to 184128 persons in urban areas in 2021 and 96013to 129966persons in rural and 207377to 242811persons in urban areas in 2031.In the rural area, the out-migrants will be 98936 persons in 2021 with 1.66 percent of annual growth rates. The growth rate of male out-migration in rural Koch Bihar is negative from 2001 to 2031; it will be around -0.30 percentin 2031from -1.30 percent in 2011. The female out-migration rate is higher than the males in rural areas, with 3.04 percent of annual growth rates, 84322 persons in 2021 and 103978 in 2031. In the urban areas, the out-migration growth rate is high; it is around 7.71 percent annually. The females (8.51 percent) are more out-migrated than the males (6.74 percent) in Koch Bihar district from 2001 to 2011. In 2021, the urban out-migrants will be around 156839 and 225094 in 2031. Females and males will be 93555 and 63673, respectively in 2021 and in 2031 males will be 89307 and females will be 136565.

5.5. Conclusion:

This chapter concludes that out-migration is not static, changing every moment within the geographical units. The movement or relocation pattern of migration was different from the present migration pattern by its quantity, distance, duration, gender, etc. Besides the males, females are out-migrating due to work or employment-related reasons from one part of the country to another. Moreover, India's Census shows that females are more migratory than males by its societal customs like marriage in Bengal society. As per the statistics of migration D-tables, Census of India, both the number of males and females' out-migrants is increasing every decade while in the last decade (2001-2011) revealed the negative trend of male rural out-migration from the district. The significant findings are described below;

1. From 1971 to 1981, the overall 26.32 percent migrants increased, slowing down to 12.05 percent from 1981 to 1991. The growth rate of male migrants about 52.80

percent in 1991-2001. The growth rate of overall migration from 2001 to 2011 was 44.91 percent, where 56.54 percent of them were males, and 40 percent were females' growth.

2. In the report, NSSO, 2007-08, the inter-state migrants were 11.5 percent, 10.3 percent in 1999-2000. Different Census report (1971, 1981, 1991, 2001 and 2011) shows that the intensity of "rural-rural migration" is the most critical flow in the country.

3. The Census reports have shown that most districts indicate the increase of the percentage of "out-migration" to the total population.

4. The Census 1981 focused on increasing the percentage of out-migrants from the last decade in Koch Bihar district. According to the Census 1971 which 1.67 percentof the total district population has been changed into 2.77 percent in the year 1981

5. The Census of 2001 depicts 4.96 percent of out-migrants to total district population, which has been changed into 6.15 percent in 2011.

6. The percentage of male out-migration in the year 1981 was 1.65 percent which changed to 4.01 percent in the year 2011. The percentage of female out-migration was 2.26 in 1981, which increased to 8.42 percent in 2011 in Koch Bihar district, proving the percentage of out-migration of both the males and females is gradually increasing every decade.

7. The rural out-migration of Koch Bihar district in 2001 was 3.23 percent increased to 3.36 percent while table 5.8 shows focused the out-migration of a rural male in 2001 was 2.01 percent which reduce to 1.55 percent in 2011. However, the percentage of female migration in 2001 was 4.52 percent which changed to 5.28 percent in Koch Bihar district.

8. The above-surveyed result-focused that out-migration from the rural-urban stream is 67.6 percent, where the majority are males, and the remaining 11 percent are females. If we see about the duration and stream of rural out-migration, more than 30 percent of them are migrated towards their destination for 4 to 8 years duration, and 47.1 percent of them are staying 1 to 4 years duration.

9. The growth rate of out-migration in Koch Bihar district is 4.12 percent annually in the last decade (2001 to 2011). Females' growth rate (4.98 percent) is more than the male (2.68 percent) out-migrants.

10. Applying the linear growth rate model for out-migration projection, it is found that the total out-migrants will be 244921 persons in 2021. Male and female will be 73844 persons and 127607 persons, respectively. As per linear growth rate total out-migrats will be 316376 persons in 2031 while male and female will be 89431 and 230005 persons respectively.

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CHAPTER-6

CAUSES OF RURAL OUT-MIGRATION IN KOCH BIHAR DISTRICT

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6.1. Introduction:

In mobility of the population, rural out-migration an essential feature of the developing parts of the world. There is a distinction among the term 'mobility,' 'migration', and 'circulation'. Mobility is a broad term that includes all population movements; migration denotes the permanent transfer of population; while circulation is related to the temporary change of residence and may further be classified as 'daily,' 'periodic,' 'seasonal' and 'long-term,' according to the length of the cycle (Raghavendar, 2008). Migration is a very complex phenomenon determined by various reasons and aspects that generally link to the people's socio-economic condition, which influences the size, structure, and distribution of population across geographical boundaries (Thaware, 2013; Patra &Agasty, 2013). Migration is very closely associated with the process of economic development. There are two crucial broad streams of migration, viz. international and intra-national, in India. Todaro (1977) gives four aspects of migration and reasons, which are: "relative benefits and costs-mostly financial, but also psychological"; except wage differential; the probability of jobs; urban-rural expected income differentials. Lee (1966) describes the processes of migration are influenced by four factors: "associated with the area of origin, destination, intervening factors, and personal factors". However, in India's case, the out-migration is a recreation against socio-economic distresses and dissatisfaction in society. It usually considers a calculation on the cost and benefit of out-migration at a particular point of time and place (Thaware, 2013). The Census 2001 reveals that 54.28 percent of rural-rural and 20.95 percent of rural-urban out-migrants are dominants whereas 0.75 percent in international migration. An analysis of census (2001) data reveals that female populations are dominated by rural-rural out-migration (77.99 percent), and the male population is dominated by the rural-urban out-migration (50.05 percent). The study found that most women moved after marriage, although some rural-rural area movements may be due to job search as is the case with males (Patra and Agasty, 2013).

6.2. Causes of Rural Out-Migration:

There are two principal factors related to migration is Push and Pull factor. The study highlights push factors: poverty, unemployment, natural calamities, lack of jobs, etc., responsible for out-migration from an area. On the other hand, pull factors attract more

peoples from an (origin) area to the present area (area of destination) for employment opportunities, educational facilities, high wages, right working conditions, etc.

The study also reveals in rural India, lack of land distribution, poor agricultural production, population growth, and low level of development etc. leads the out-migration. People's movements from one area to another are determined by demographic, cultural, political, geographical, social, and economic factors. The pressure of population, marriage, unemployment or occupation, achievement, education of children, unfavourable geographical conditionsare some of the numerous factors that have motivated people to migrate from one place to another. It is always impossible to identify one factor that has been the cause of persons' migration; very often, migration is motivated by two or more factors (Sinha & Zacharia, 2007; Kainth, 2010). The critical factors which motivate people to move from rural areas of Koch Bihar district may broadly be classified into the following groups:

Figure 6.1: Causes of Rural Out-Migration
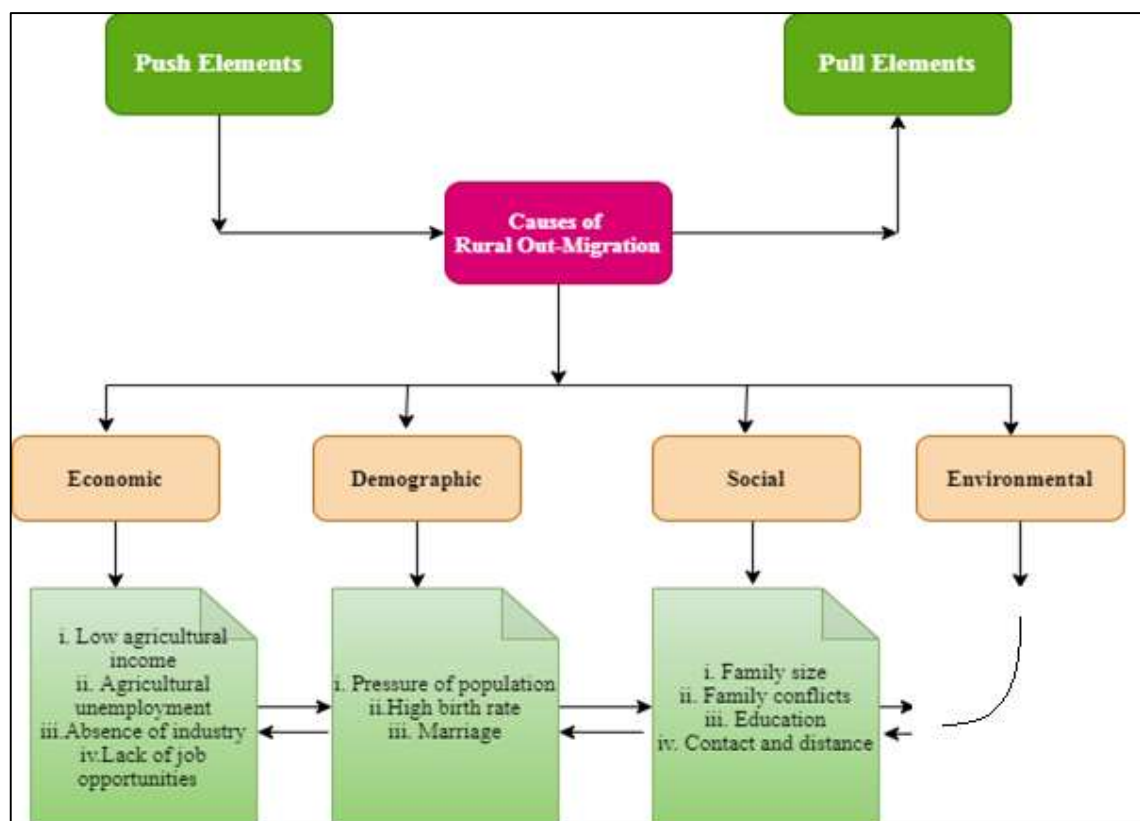
Source: Compiled by the researcher

1. Economic push and pull factors
    i) Low agricultural income
    ii) Agricultural unemployment
    iii) Absence of industry
    iv) Lack of job opportunities
2. Demographic push and pull factors
    i) Pressure of population
    ii) High birth rate
    iii) Marriage
3. Social push and pull factors
    i) Family Size
    ii) Family conflicts
    iii) Education
    iv) Contact and distance
4. Environmental push and pull factors
5. Political factors

6.2.1. Economic Push and Pull Factors

Economic factor isindicatingas the primary reason of rural out-migration (Kainth, 2010). Most people emigrate from places where they lack job opportunities and immigrate to places where jobs seemavailable. Different economic factors like low agricultural income, agricultural employment, and industry absence are important economic determinants of rural out-migration. A depressed economic condition is an area that generates rural out-migration.

i) Agricultural income

Rural out-migration is done for income differences in the agricultural sector of the rural areas of the district. The low agricultural income consists of a push factor of out-migration to the urban area. The depressed income condition generates out-migration tendencies (Chandna, 2009; Husain, 2009). Kaur et al. (2011) studied that low income or wages from agriculture at the origin contributed to the out-migration of 94.3 percent of the migrant in rural areas of Punjab. According to FAO, most available jobs in agriculture are associated with low and unable income and generate out-migration. Low agricultural return is a push factor of out-migration due to macroeconomics reforms linked with globalisation policies.

ii) Agricultural employment

The availability of agricultural land denotes the most importanteconomic factor measuring the magnitude and direction of out-migration. The areas having tremendous pressure of population and limited agricultural land affects the out-migration in a region. The NSS data (1999-2000) reveals that agricultural unemployment has been increasing. Almost zero growth rates in agricultural employment cause out-migration. In 1993-94, the country's agriculture employment rate was 60.4 percent where it reduced to 56.7 percent in 1999-2000, and it is going to be less and less shortly.

iii) Absence of industry

Besides the low agricultural income and agricultural unemployment, the industrial pull is an essential factor of out-migration to urban areas. From the study brief industrial profile of Koch Bihar district, depends on agriculture, and the industrial sector is facing lack of proper infrastructure. The report found that agro-based industries like the manufacturing of jam, jelly, sauce, and chips have good potential in the district. As the districts, agricultural techniques have not been adopted on a large scale, cause of rural labour out-migration to other areas.

iv) Lack of job opportunities

Unavailability of employment opportunities in rural areas cause of rural out-migration (Chandna, 2009). The study also reveals that propensity of youthmigration is higher than other age-group (Fields, 1975). The migration rate is gradually increased in the poor and developing countries due to work and necessary needs. Rural poor are engaged in out-migration due to poverty. Poverty is a social problems which resist the development. Poor people can get better job opportunities for poverty alleviation by this socio-economic mobility for sustainable development.

6.2.2. Demographic Push and Pull Factors

Different demographic factors also determine the migration and propensity spectrum (Chandna, 2009). There are some important demographic push and pull factors of migration;

i) Pressure of population

Population growth rate determines the extent ofpopulation in a geographical area. A high percentage of out-migration from high population density areas usually are explained by the insufficient natural resources available. It may be found that low or cultivation intensity, and thus, soil fertility is exogenous. The effect of population density on agricultural employment generates rural-out-migration, which increase agricultural prices.

ii) High birth rate

The total number of births per thousand population of a region is known as the birth rate. This birth rate may sometimes be high or low. A high birth rate harms the economy. In a region havingnegative economic growth, generates out-migration from the place of origin. A study focused by Zhang (2007) that the impact of birth rate on the economy and demographic characteristics.

iii) Marriage

Marriage is a common characteristic of rural out-migration basically for the females in India. The female out-migration was predominantly by marriage related reason, whereas the males migrated due to work or employment-related reason. The Census of India (2001) shows that 43.8 percent migration due to cause of marriage, where it was 2.1 per for male and 64.9 percent female persons in India whereas it was 2.63 percent male and 56.07 percent female marriage migrants in 2011. The study of Stark (1988) and Fulford (2015) reveals that women have migrated for marriage.

6.2.3. Social Push and Pull Factors

i) Family Size

Family size emphasises an essential role of rural out-migration in Koch Bihar district. A large number of out-migrants were migrated from relatively large families. Arthur (2005) indicates the different positive and negative choices of the family's size on people's socio-economic condition. Family size affects poverty, health, literacy, economy, etc. A smaller family may be provided with better education, good health, optimum income, and right thinking, whereas a large family ultimately faces a lower level of education, income, and weak economic status. Bratti et al. (2016) also found that family and demographic features have large impacts on migration.

ii) Family conflict

Family conflict reveals crucialreasons of rural out-migration. A different study found that the joint family system encourages leaving the young family members to another area's worksite.

iii) Education

The propensity to out-migrationis depends on the level of completed education. Young men and women who spent more years in schools, colleges, universities, etc., reveal the most probability of migrating to cities. India's young boys and girls who completed their education by migration to urban areas think in a rural area do not availability jobs (Sivamurugan, 2013).

iv) Contact and Distance

Migration in societies is affected by contact and distances. The "direct contacts a person in one region has with another region are partly a function of distance, and it is clear that the distance and contact are not perfectly correlated, where distance affects the intensity of migration in a place" (White, 2010).

6.3. Causes of Migration in India:

Various empirical studies show that rural out-migration has been identified as a "survival strategy" utilised by rural poor people's (Lipton, 1980; Ajaero and Onokala, 2013). Up to the census of 1961, the migration data was collected based on place of birth (POB).The census, 1971 was added on other question places of the last residence (POLR) to get more information about India's migration volume. From the data, "if the place of birth or place of the last residence is different from enumeration, a person is defined as a migrant" (Bhagat and Lusome, 2006). The census 1991, 2001, and 2011 added this question with the duration of stay at the place of enumeration. Find out the micro-level study on the reason migration is restricted. However, based on the last residence for the causes of migration based on age, sex, and residence duration less than 1 year, 1 to 4 years, 5 to 9 years, more than 10 years, and all residence duration. "Migrants of all durations are defined as lifetime migrants because the time of their move" is unknown (Bhagat and Lusome, 2006). It is also noted that the migrants who migrated within 0-9 years are called intercensal migrants. Reasons for migration of different censuses period (table 6.1) as grouped as follows;

Table 6.1: Causes of Migration in India

1981 Census	1991 Census	2001 Census	2011 Census	NSSO, 2007-08
a) Employment b) Education c) Family moved d) Marriage e) Others	a) Employment b) Business c) Education d) Family moved e) Marriage f) Natural calamities g) Others	a) Work/Employment b) Business c) Education d) Marriage e) Moved with birth f) Moved with household g) Any other reason	a) Work/Employment b) Business c) Education d) Marriage e) Moved after birth f) Moved with household g) Others	a) Employment related reason b) Studies c) Forced migration d) Marriage e) Movement of parents f) Others

Source: Different Census of India; NSSO 64th Round, 2007-2008.

Table 6.2: Causes of Migration in India according to POLR (0-9 years), 2011

Causes of Migration	Total (%)	Male (%)	Female (%)
Work/employment	11.58	27.28	3.07
Business	0.81	1.68	0.34
Education	3.19	5.29	2.05
Marriage	37.28	2.63	56.07
Moved after birth	12.97	19.36	9.50
Moved with household	22.01	26.87	19.38
Others	12.15	16.89	9.58
Total	100	100	100

Source: Census of India, 2011 Migration D-Series
POLR-Place of Last Residence

6.3.1. Causes of Migration in India According to POLR by the Census of India

The Census of Indiafocused that the migrant's last residence (POLR) as 0-9 years, the male and female migrants vary significantly. The data found work/employment was the significant reason among the male population (37.6%), whereas marriage was cited as a dominant factor by the female population (64.9%) in 2001. Table 6.2 reveals that 37.28 percent of total migrants are engaged in marriage related reasons, where only 2.63 percent of males and 56.07 percent are engaged.

6.3.2 Causes for Inter-State Male-female Rural Out-Migration in India by NSSO 64th Round, 2007-2008

Male Rural Out-Migration

According to NSSO 64th round (2007-2008), 79.9 percent of males are migrated due to employment related reason from one state to another state and the remaining 7.8 percent for studies, 7.6 percent for movement with parents or earning member, and 3 percent for other related reason in India. The following table provides statistics on the percentage of male rural out-migration in different states of India. Delhi and Chandigarh mark 100 percent of male out-migration due to employment-related reasons. Reason of male out-migration due to employment in more than 80 percent in Assam (94.9%), Bihar (88.1%), Goa (83.2%), Jammu & Kashmir (90.5%), Jharkhand (82.6%), Odhisha (87.2%), Punjab (83.1%), Rajasthan (80.2%), Tamilnadu (84.4%), Tripura (90.2%), Uttarakhand (84.4%), Uttar Pradesh (82.5%) and West Bengal (89.4%) (map 6.1). Studies by Babu and Gurunathan (2013) focused onthe uncertainty of income agriculture; huge unemployed workers exist in Tamilnadu. Due to unemployment or poor salaries, many of them decided to out-migrate another region. Mitra and Murayama (2009) have found that male out-migration is more dominant in the high economic areas, whereas females are migrated within the state boundaries. They mainly focused on prospects for better job opportunities is the major dominant factor of rural to urban migration. Out-migration of male-related to study is highly observed in Sikkim (34.6%), Andhrapradesh (23.9%), and Nagaland (23.7%), and so on.

Female Rural Out-Migration

The dominance of female rural-rural out-migrationoccurred due to marriage-related migration. Approximately 70 percent of the total migration is female, where females indicated in terms of 'marriage' or 'associational" migration (Premi, 1980). Female migration is indicated as family migration, which causes marriage migration. Most of the immigrant females for the urban areas are determined by their non-agricultural activities in the villages (Thadani and Todaro, 1984). The migration of females, like males, is indeed likely to the job opportunities to the other region. The study done by Pryor (1977) phrased that 'unavoidable correlate' of migration as in India, where marriage involves a bride's movement from her parental house to spouse house is called marriage migration. Marriage could also be an alternative route of socio-economic status or social mobility. Pittin (1984)

viewed the "autonomous" migration on the young women in Nigeria, where some middle-aged grouped or elderly women migrated to the urban area for their work on household servants, water-sellers, or traders. Another study by Khoo et al. (1984) focused that some Asian countries reported the increasing number of young female migration into the cities due to study related reason, and many of them engaged their works on service, manufacturing sector, and informal sector of urban areas. NSSO (2007-2008) revealed that 83.4 percent of females are migrated due to marriage migration. Of them, 2.3 percent are females migrated due to work or employment. Reason of female out-migration due to marriage in more than 80 percent in Assam (87.1%), Delhi (100%), Gujarat (86.3%), Haryana (92.2%), Himachal Pradesh (84.3%), Jammu & Kashmir (95.4%), Karnataka (84.6%), Maharashtra (84.7%), Nagaland (82.4%), Punjab (91.3%), Rajasthan (87.8%), Tamil Nadu (83%), Tripura (83.8%), Uttar Pradesh (83.5%), West Bengal (94.7%), Chandigarh (84.3%), Daman & Diu (88.8%) and Puducherry (91.7%) (map 6.2). Another important reason for female migration is the mobility of the female workforce from rural to urban destinations. The females of rural areas lack employment and decide to out-migrate urban regions for better work or employment (Singh and Singh, 2016). The study by NSS focused, female rural female out-migration due to employment reasons from Meghalaya 39.2 percent, Lakshadweep 30.1 percent. In West Bengal, this percentage is very low for female out-migration. Connell et al. (1976) revealed that the propensity of female out-migration is increasing due to education. Another observation focused by Hugo (1993) is females' educational participation increasing female migration in developing countries. It has also been observed by UNESCAP (2003) that female education encourages female migration. The highest percent of females are migrated due to education in Meghalaya (54.2%), Arunachal Pradesh (32.7%), Manipur (27.4%), Andaman& Nicobar Islands (24.8%), and so on (**Appendix-III.K).**

6.4. Determinants of Rural Out-Migration in Koch Bihar District:

Rural Out-migration has also been identified as a survival strategy utilised by rural poor people's (Lipton, 1980; Ajaero and Onokala, 2013).In India, the out-migration from rural areas is a crucial issue gaining more significance year after year (Korra, 2010), which affects the rural population distributions (Findlay, Short & Stockdale, 2000). In migration studies, rural out-migration is mainly related to the labour out-migration from the rural region and related to remittances' income (Lipton, 1980; Talylor, 1999). According to Lee (1966), the

causes of migration are related to the "push and pull" factors of a region, and "it is a permanent or semi-permanent change of residence". Todaro (1977) gives four aspects of migration and reasons, which are: "relative benefits and costs-mostly financial, but also psychological"; except wage differential; the probability of jobs; urban-rural expected income differentials. In an earlier study in the district by Barman and Roy (2019), out-migration duration is classified into two ways, viz., short-term and long-term migration. The less than four-years of destination is called short-term, and more than four years duration is called long-term or permanent out-migration.

Census of India D-series represent migration duration into four categories, less than one-year duration, 1 to 4-year duration, 5 to 9-year duration, and all the duration residence. In the 5 to 9 years duration of migration, we found that 70.68 percentage persons migrate due to marriage, where 69.71 percent of them are female, and the remaining 0.97 percentage male migrate due to marriage-related reasons. Similarly, the percentage of female migration is observed in less than 1-year duration 40.36 percent, 1 to 4-year duration 66.72 percent and 53.28 percentage of all residence duration. Ithas been proven that female migration is strongly associated with marriage-related migration. The study by Singh and Singh (2016), marriage is a continuous reason for the overwhelming presence of females amongst the migrants; the increase is also due to economic factors. Otherwise, it has been observed that male migration is associated with work or employment reasons.

In less than one year residence out of all, 40.36 percent of them are female associated with marriage and remaining 21.56 percent persons are a movement with household, 9.61 percent is movement after birth, 5.31 percent for work or employment, 1.15 percent for education and 0.86 percent for the businessrelated reason of out-migration. Similarly, in 1 to 4-year duration, 66.72 percent of females and 1.01 percent of males were migrated due to marriage, whereas 6.35 percent of females and 5.32 percent of males were migrated with family. The Census of India D-series also shows 5 to 9-year duration migration in Koch Bihar district, where more than 70 percent of migration is affected by marriage. Marriage is a common associational migration among rural females in the district. So, in this case study, we have eliminated marriage as a determinant of rural out-migration (table 6.3).

Table 6.3: Percentage of Distribution of Various Causes for Migration by the Duration of Residence in Koch Bihar District, 2011

	Work/Employment			Business			Education			Marriage			Moved after birth			Moved with household			Others		
	P	M	F	P	M	F	P	M	F	P	M	F	P	M	F	P	M	F	P	M	F
Less than 1 year residence	5.31	4.26	1.05	0.86	0.67	0.19	1.15	0.66	0.49	40.94	0.58	40.36	9.61	4.94	4.67	21.56	10.07	11.49	20.58	10.68	9.90
1-4 year duration of residence	2.49	1.88	0.61	0.65	0.54	0.11	0.91	0.53	0.39	67.74	1.01	66.72	6.53	3.42	3.11	11.67	5.32	6.35	10.02	4.22	5.80
5-9 year duration of residence	2.30	1.80	0.50	0.63	0.55	0.08	0.41	0.26	0.15	70.68	0.97	69.71	5.36	2.81	2.55	11.49	5.60	5.89	9.13	3.93	5.20
All duration residence	2.08	1.69	0.39	0.61	0.54	0.08	0.31	0.20	0.11	54.30	1.02	53.28	3.52	2.01	1.51	14.56	8.29	6.27	24.62	13.84	10.79

Source: Migration D-Series, Census of India, 2011.
P=Person, M=Male, F=Female

6.4.1. Causes of Rural Out-Migration in Koch Bihar District

The crucial causes related to rural out-migration of labours in the district arelack of employment or unavailability of the job; Low income; Low daily wages; and No industrial sector. The percentage distribution of "push and pull" factors of rural out-migration in the district is given in Table 6.4. It would be seen from the data that reveals the majority of the rural out-migrants (60.3%) migrated from rural areas to another region due to lack of employment or unavailability of jobs in rural areas of the district. It can also be seen from table 6.13 that lack of land accounted for 20.6 percentage and rural out-migration for business 8.8 percentage of the total rural out-migration in the block (figure 6.2). The district is nothaving notable industry for availing job opportunities. The remaining pull factors like availability of job in urban areas, high income and high wages, facilities of education, etc., determine the rural out-migration in the block and the district.

Figure 6.2: Causes of Rural Out-Migration in Koch Bihar District
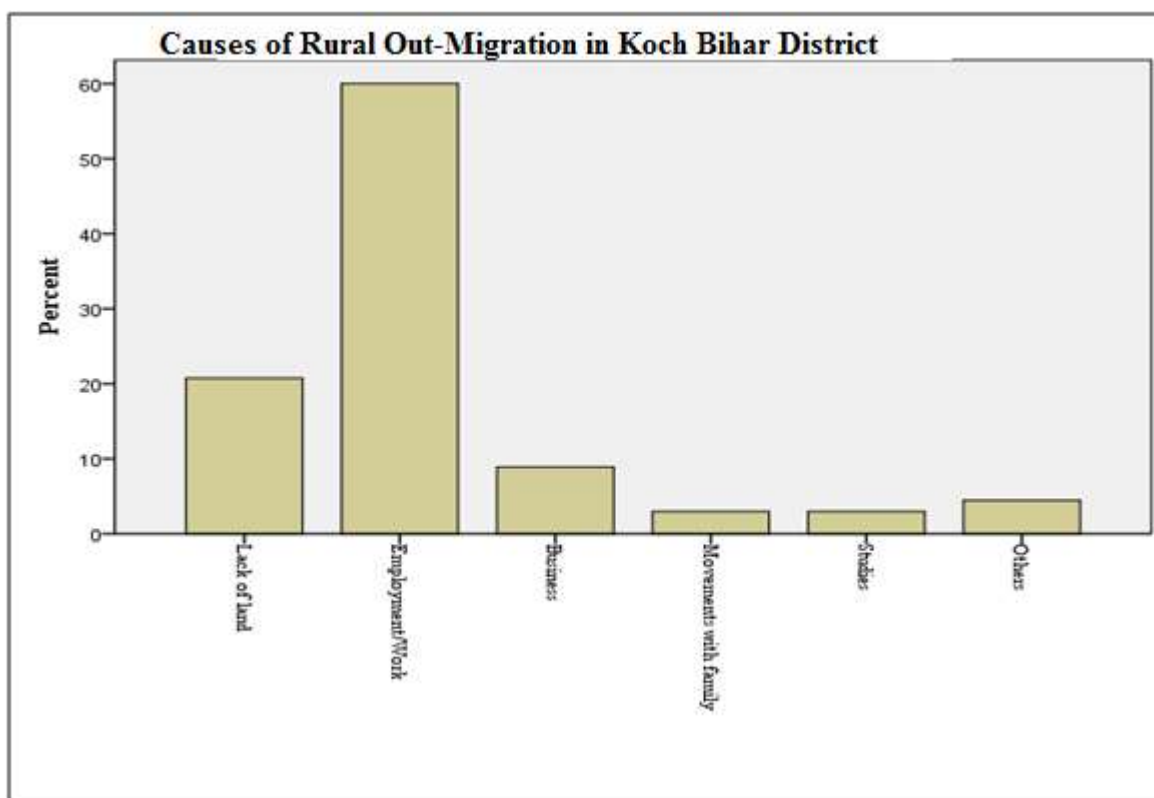
Table 6.4: Causesof Rural Out-Migration (Push and Pull Factors)

Causes	Frequency	Percent	Valid Percent	Cumulative Percent
Lack of land	56	20.6	20.6	20.6
Employment/Work	164	60.3	60.3	80.9
Business	24	8.8	8.8	89.7
Movements with family	8	2.9	2.9	92.6
Studies	8	2.9	2.9	95.6
Others	12	4.4	4.4	100.0
Total	272	100.0	100.0	

Source: Field Survey, 2017-2018.

Table 6.5: Gender Specific Causes of Rural Out-Migration

Causes		Gender		Total
		Male	Female	
Lack of land	Number	48	8	56
	% of Total	17.6	2.9	20.6
Employment/Work	Number	148	16	164
	% of Total	54.4	5.9	60.3
Business	Number	20	4	24
	% of Total	7.4	1.5	8.8
Movements with family	Number	4	4	8
	% of Total	1.5	1.5	2.9
Studies	Number	8	0	8
	% of Total	2.9	0.0	2.9
Others	Number	10	2	12
	% of Total	3.7	.7	4.4
Total	Number	238	34	272
	% of Total	87.5	12.5	100

Source: Field Survey, 2017-2018.

Table 6.6: Association Test for Gender Specific Causes of Rural Out-Migration

Test	Value	df	Sig.	Cramer's V
Pearson Chi-Square	13.292	5	.021	
Likelihood Ratio	10.641	5	.059	
Linear-by-Linear Association	.625	1	.429	0.221
N of Valid Cases	272			

Table 6.5 focuses on the causesforrural out-migration in gender-wise. The study highlights that 87.5 percent of males and the remaining 12.5 percent belong to female out-migration. Of these, 54.4 percent of males migrated for employment or worked for their

livelihood, whereas 5.9 percent were females. It is essential to note that 17.6 percent of males and 2.9 percent of females were out-migrated due to the lack of agricultural land. It is to note that 7.4 percent of males and 1.5 percent of females migrate due to business related work. Both males and females are equaly migrated with their family. The case study also shows that only threepercent of males are migrated due to studyrelated reasons. Table 6.6 reveals the Chi-Square test and Cramer's V which indicating there is a significant variation for the causes of male and female rural out-migration in Koch Bihar district.

Table 6.7: Causes of Rural Out-Migration by Marital Status

Causes		Marital Status			Total
		Married	Unmarried	Widowed	
Lack of land	Number	48	8	0	56
	% of Total	17.6	2.9	0.0	20.6
Employment/Work	Number	132	30	2	164
	% of Total	48.5	11.0	.7	60.3
Business	Number	22	2	0	24
	% of Total	8.1	.7	0.0	8.8
Movements with family	Number	8	0	0	8
	% of Total	2.9	0.0	0.0	2.9
Studies	Number	0	8	0	8
	% of Total	0.0	2.9	0.0	2.9
Others	Number	6	6	0	12
	% of Total	2.2	2.2	0.0	4.4
Total	Number	216	54	2	272
	% of Total	79.4	19.9	.7	100

Source: Field Survey, 2017-2018.

Table 6.8: Association Test for Causes of Rural Out-Migration by Marital Status

Test	Value	df	Sig.	Cramer's V
Pearson Chi-Square	45.808	10	.000	
Likelihood Ratio	40.664	10	.000	
Linear-by-Linear Association	13.536	1	.000	0.29
N of Valid Cases	272			

Table 6.7 revealed that out of all married respondents (79.3%), 48.1 percent migrated due to work or unemployment, whereas 11.1 percent for unmarried respondents and 17.8 percent for married respondents were migrated due to the lack of land. The majority of persons who out-migrate due to business are married by 8.1 percent.Table 6.8 depicting

there is a significant variation of causes of rural out-migration by their marital status in the district.

Table 6.9: Causes of Rural Out-Migration by Religion

Causes		Religion		Total
		Muslim	Hindu	
Lack of land	Number	2	54	56
	% of Total	.7	19.9	20.6
Employment/Work	Number	12	152	164
	% of Total	4.4	55.9	60.3
Business	Number	4	20	24
	% of Total	1.5	7.4	8.8
Movements with family	Number	4	4	8
	% of Total	1.5	1.5	2.9
Studies	Number	2	6	8
	% of Total	.7	2.2	2.9
Others	Number	2	10	12
	% of Total	.7	3.7	4.4
Total	Number	26	246	272
	% of Total	9.6	90.4	100

Source: Field Survey, 2017-2018.

Table 6.10: Association Test for Causes of Rural Out-Migration by Religion

Test	Value	df	Sig.	Cramer's V
Pearson Chi-Square	22.720	5	.000	
Likelihood Ratio	15.869	5	.007	
Linear-by-Linear Association	10.995	1	.001	0.289
N of Valid Cases	272			

The study focuses on 90.4 percent of Hindu, and reaming 9.6 percent were migrated tothe Koch Bihar district. Out of 90.4 percent, most Hindu respondents were out-migrated due to employment/work (55.9%), whereas it was only 4.4 percent for Muslim. It is important to note that many Hindu respondents migrated because of the lack of agricultural land (19.9%).

The Chi-Square test of table 10 indicating there the district is dominant by Hindu religion and majority of them are migrated due to work related reason. The Cramer's V (.289) also reveals significant effect of status of religion varies causes of rural out-migration in Koch Bihar district.

Table 6.11: Causes of Rural Out-Migration by Social Groups

Causes		Caste				Total
		SC	ST	OBC	General	
Lack of land	Number	40	0	16	0	56
	% of Total	14.7	0.0	5.9	0.0	20.6
Employment/Work	Number	110	4	44	6	164
	% of Total	40.4	1.5	16.2	2.2	60.3
Business	Number	18	2	2	2	24
	% of Total	6.6	.7	.7	.7	8.8
Movements with family	Number	2	0	4	2	8
	% of Total	.7	0.0	1.5	.7	2.9
Studies	Number	2	2	4	0	8
	% of Total	.7	.7	1.5	0.0	2.9
Others	Number	6	0	6	0	12
	% of Total	2.2	0.0	2.2	0.0	4.4
Total	Number	178	8	76	10	272
	% of Total	65.4	2.9	27.9	3.7	100

Source: Field Survey, 2017-2018.

Table 6.12: Chi-Square Tests for Association of Causes of Rural Out-Migration among Different Social Groups

Test	Value	df	Sig.	Cramer's V
Chi-Square	45.491	15	.000	0.236
Likelihood Ratio	37.109	15	.001	
Linear-by-Linear Association	6.069	1	.014	
N	272			

Table 6.11 indicates that 40.4percentage of Scheduled Caste (SC) respondents migrated due to employment or work. 14.7 percent of Scheduled Caste (SC) and 5.9 percent of other Backward Class (OBC) respondents had no agricultural land and migrated to another region.

Table 6.12 reveals there is a significant difference of causes of rural out-migration in Koch Bihar district by the different social groups which having significant effect of distribution of out-migrants. In Koch Bihar districtmost of migrant respondents are from the Scheduled caste population compared to other social groups in the district, and it is essential to note that most of them belongtoRajbanshi communities. The majority of them are migrated due to work or employment related reasons.

Table 6.13: Block-Wise Percentage Distribution forCauses of Rural Out-Migration

Name of the Block		Lack of land	Employment/Work	Business	Movements with family	Studies	Others	Total
Dinhata-I	Number	10	6	0	0	0	0	16
	%	3.7	2.2	0.0	0.0	0.0	0.0	5.9
Dinhata-II	Number	0	14	10	0	0	0	24
	%	0.0	5.1	3.7	0.0	0.0	0.0	8.8
Haldibari	Number	4	2	0	4	0	0	10
	%	1.5	.7	0.0	1.5	0.0	0.0	3.7
Koch Bihar-I	Number	16	12	2	0	0	2	32
	%	5.9	4.4	.7	0.0	0.0	.7	11.8
Koch Bihar-II	Number	0	12	0	0	2	0	14
	%	0.0	4.4	0.0	0.0	.7	0.0	5.1
Mathabhanga-I	Number	0	16	0	0	0	0	16
	%	0.0	5.9	0.0	0.0	0.0	0.0	5.9
Mathabhanga-II	Number	4	14	0	0	0	10	28
	%	1.5	5.1	0.0	0.0	0.0	3.7	10.3
Mekhliganj	Number	6	2	8	2	0	0	18
	%	2.2	.7	2.9	.7	0.0	0.0	6.6
Sitai	Number	0	6	2	0	0	0	8
	%	0.0	2.2	.7	0.0	0.0	0.0	2.9
Sitalkuchi	Number	14	30	2	2	4	0	52
	%	5.1	11.0	.7	.7	1.5	0.0	19.1
Tufanganj-I	Number	0	36	0	0	2	0	38
	%	0.0	13.2	0.0	0.0	.7	0.0	14.0
Tufanganj-II	Number	2	14	0	0	0	0	16
	%	.7	5.1	0.0	0.0	0.0	0.0	5.9
Total	Number	56	164	24	8	8	12	272
	%	20.6	60.3	8.8	2.9	2.9	4.4	100

Source: Field Survey, 2017-2018

The above table 6.13 shows out of all the majority percentage of rural out-migration from the CD block Sitakluchi (19.3%) followed by Tufanganj-I (14.1 %), Koch Bihar-I, Mathabhanga-II (10.4%), Dinhata-II (8.9%), Mekhliganj (6.7%) and so on. The study reveals that 13.2percent of respondentsare migrating due to work from Tufanganj-I, followed by Sitalkuchi (11.1%), Mathabhanga-I (5.9%), and Dinhata-II (5.1%). The CD

blockswhich are located at the Indo-Bangladesh border, majority of them having no cultivated land, regions having no notable industry, even there is not the availability of household based industry. Due to the unavailability of work in agriculture, the majority have them decide to out-migration. Table 6.14 revealsthe district having significant variation of causes of rural out-migration.

Table 6.14: Chi-Square Tests for the Association of Causes of Rural Out-Migration

Test	Value	df	Sig.	Cramer's V
Pearson Chi-Square	298.611	55	.000	0.469
Likelihood Ratio	240.623	55	.000	
N of Valid Cases	272			
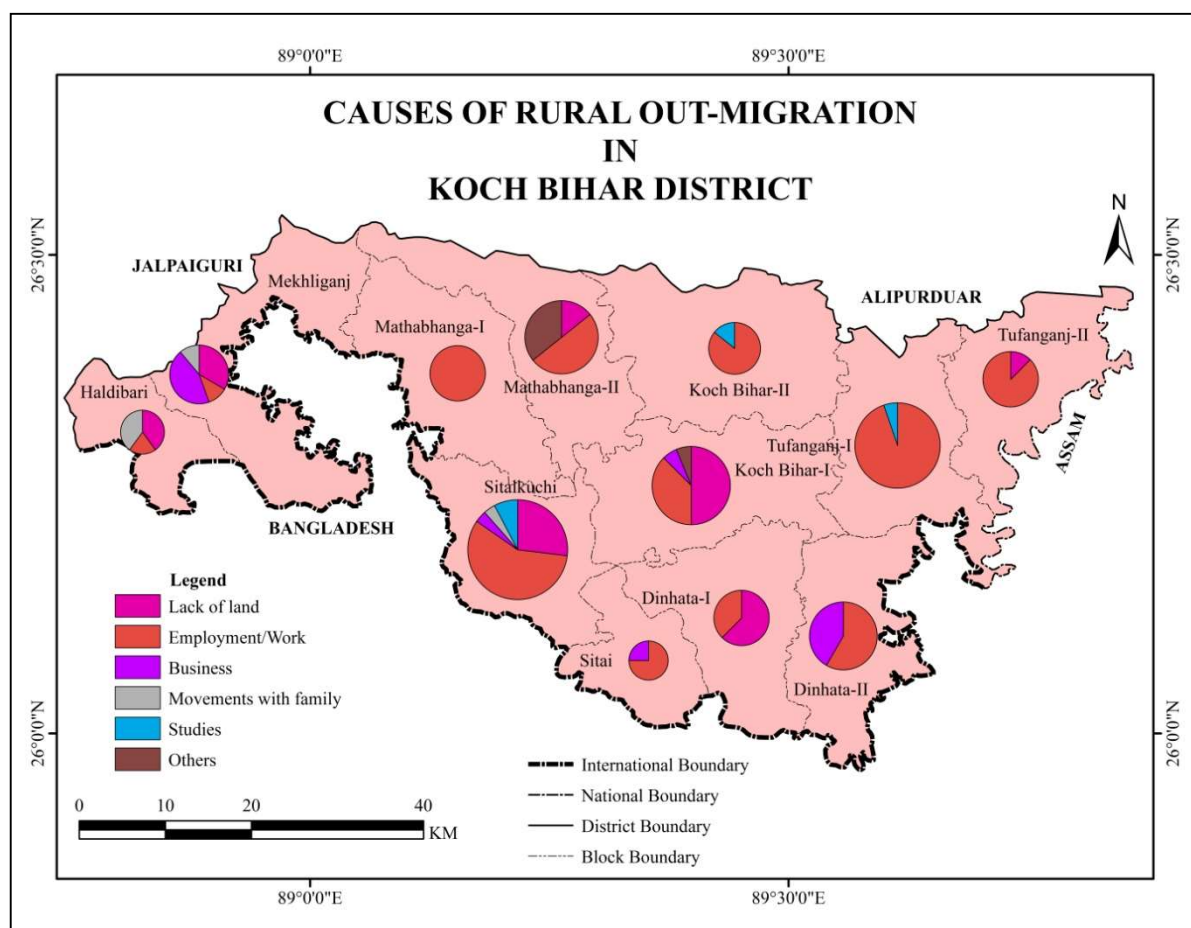
Map 6.1: Causes of Rural Out-Migration in Koch Bihar District

Table 6.15 depicting out of all duration of out-migrants 24.3 percnt of them are migrated for 4 to 8 years due to work or employment. Study also reveals 10.3 percent of them in 1 to 4 year's duration due to lack of land. In 1 to 4 years duration, the study

observed 2.2 percent migrated for their higher studies into the urban areas, and 1.5 percent was migrated.

Table 6.15: Causes of Rural Out-Migration According to the Duration of Migrants

Causes		Duration			Total
		Less than 1 year	1 to 4 years	4 to 8 years	
Lack of land	Number	20	28	8	56
	% of Total	7.4	10.3	2.9	20.6
Employment/Work	Number	34	64	66	164
	% of Total	12.5	23.5	24.3	60.3
Business	Number	4	16	4	24
	% of Total	1.5	5.9	1.5	8.8
Movements with family	Number	4	4	0	8
	% of Total	1.5	1.5	0.0	2.9
Studies	Number	0	6	2	8
	% of Total	0.0	2.2	.7	2.9
Others	Number	0	10	2	12
	% of Total	0.0	3.7	.7	4.4
Total	Number	62	128	82	272
	% of Total	22.8	47.1	30.1	100

Source: Field Survey, 2017-2018.

Table 6.16: Chi-Square Tests for the Association of Causes of Rural Out-Migration According to Duration of Migrants

Test	Value	df	Sig.	Cramer's V
Pearson Chi-Square	35.841	10	.000	
Likelihood Ratio	41.698	10	.000	0.257
Linear-by-Linear Association	1.005	1	.316	
N of Valid Cases	272			

Table 6.16 focused there there is significant difference among the causes of rural out-migration according to the duration of out-migratns.

6.4.2. Risk Factors of Rural Out-Migration by Binary Multivariate Logistic Regression Analysis

This study has been conducted with 398 respondents in the Koch Bihar district by the simple random sampling method. The earlier chapter has been studied the characteristics of different selected socio-economic and demographic explanatory variables that affect the out-

migration, and the Logistic Regression model has been applied for measuring the direction and likelihood of risk factor of rural out-migration from Koch Bihar district. The model has been defined by Islam et al. (2013),Wondimagegnhu & Zeleke (2017), and Gujarati (2009) for the study of the risk of migration factor. Gujarati described that the following formula:

$$Pi = \mathrm{E}(Y = 1|\mathrm{Xi}) = \frac{1}{1 + e^{-(\beta 1 + \beta 2 \mathrm{Xi})}} \qquad (1)$$

For the ease of exposition, (1) is rewritten as-

$$P_i = \frac{1}{1 + e^{-Z_i}} = \frac{e^Z}{1 + e^Z} \qquad (2)$$

According to the equation, if P_i is the household probability of rural out-migration and the probability of households who not involved in rural out-migration, i.e., 1-Pi, is given as follows-

$$1 - P_i = \frac{1}{1 + e^{Z_i}} \qquad (3)$$

Therefore, we can write,

$$\frac{P}{1 - P_i} = \frac{1 + e^{Z_i}}{1 + e^{-Z_i}} = e^{Z_i} \qquad (4)$$

Now, $P_i/(1 - Pi)$ is simply the odds ratio (OR) favouring out-migrated households, the ratio of the probability that the household is not involved in rural out-migration. Now, if we take the natural log, we obtain the fascinating result of the logistic regression model of rural out-migration, which has several socio-economic factors given as the following-

$$1n = \frac{P}{1 - P_i} = Z_i$$

$$= \beta_0 + \beta_1 \text{Age} + \beta_2 \text{Gender} + \beta_3 \text{Marital Status} + \beta_4 \text{Status of BPL} + \beta_5 \text{Social Groups}$$
$$+ \beta_6 \text{POB} + \beta_7 \text{Types of family} + \beta_8 \text{Literacy} + \beta_9 \text{Agricultural land}$$
$$+ \beta_{10} \text{Amount of agricultural land} + \beta_{11} \text{Main Agricultural crops}$$
$$+ \beta_{12} \text{Livestock} + \beta_{13} \text{Types of house} + \beta_{14} \text{Separate kitchen room}$$
$$+ \beta_{15} \text{Monthly income} + \beta_{16} \text{Income from MGNREGS}$$
$$+ \beta_{17} \text{Monthly expenditure} + e_{\text{rural out−migrat}}$$

In this logistic model,the migrant is considered as the dependent variable, which is a dummy variable,   indicated-

$$Y = \begin{cases} 1 \text{ is considered as respondents are migrant} \\ 0, \text{considered as respondents are non} - \text{migrant} \end{cases}$$

Table 6.17: Characteristics of the Selected Variables and their Chi-Square and Cramer's V Test

Sl. No.	Variables	Migrant (%)	Non-Migrant (%)	Chi-Square	Cramer's V
1	Age (in years)				
	0-14	0.8	0.0	8.411**	0.152
	15-65	67.1	30.2		
	>65	0.5	1.5		
2	Gender				
	Male	59.8	26.6	7.918**	0.145
	Female	8.5	5		
3	Marital Status				
	Married	54.3	25.6	4.158	0.102
	Unmarried	13.6	5		
	Widowed	0.5	1		
4	BPL Status				
	Yes	17.1	20.6	58.901***	0.385
	No	51.3	11.1		
5	Social Groups				
	SC	44.7	19.1	12.973***	0.181
	ST	2	1.5		
	OBC	19.1	7		
	Others	2.5	4		
6	POB				
	Present Place	59.8	31.2	12.465***	0.177
	Another Place	8.5	0.5		
7	Types of Family				
	Joint	10.1	18.1	76.688***	0.439

	Nuclear	58.3	13.6		
8	Literacy			36.442***	0.303
	Primary	19.1	8.5		
	Upper Primary	12.1	8.5		
	Secondary	11.6	3.5		
	Higher Secondary	2	4.5		
	Graduation and Above	5	3.5		
	Illiterate	18.6	3		
9	Agricultural Land			17.191***	0.208
	Yes	49.2	16.1		
	No	19.1	15.6		
10	Amount of Agricultural Land (in Bigha)			19.334***	0.22
	<3	36.2	11.1		
	03 to 6	7.5	2		
	>6	5.5	3		
	Landlessness HH	19.1	15.6		
11	Main Agricultural Crops			21.795***	0.234
	Rice	37.2	11.1		
	Tobacco	10.1	5		
	Others	2	0		
	No Cultivation	19.1	15.6		
12	Livestock			19.873***	0.223
	Yes	29.1	21.1		
	No	39.2	10.6		
13	Types of House			28.817***	0.269
	Kutcha	36.7	9.5		
	Semi-Pucca	22.1	11.1		
	Pucca	9.5	11.1		
14	Separate Kitchen Room			4.438**	0.106
	Yes	56.3	28.6		
	No	12.1	3		
15	Monthly income (Rs.)			111.979***	0.53
	<5000	53.8	7.5		
	5000- 10000	12.6	22.6		
	>10000	4.5	1.5		
16	Income from MGNREGS (Rs.)			12.809**	0.1179
	<5000	34.7	10.6		
	5000- 10000	29.1	19.6		
	>10000	4.5	1.5		
17	Monthly Expenditure (Rs.)				

				23.321***	0.242
	<3000	6.5	0		
	3000- 5000	29.1	10.6		
	5000- 7000	23.6	13.1		
	7000- 9000	6.5	6.5		
	>9000	2.5	1.5		
Total	N=398	68.30%	31.70%		

*HH- Household, POB-Place of Birth, BPL-Below poverty level. **p<0.05 and ***p<0.001 is significant at 95 and 99 percent confidence level*

Table 6.18: Logistic Regression Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	167.671	.563	.789

Table 6.19: Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	38.513	8	.000

Table 6.20: Accuracy for Classification Table of Logistic Regression Analysis

Observed			Predicted		
			Migration status		Percentage Correct
			Non-migrant	Migrant	
Step 1	Migration status	Non-migrant	110	16	87.3
		Migrant	10	262	96.3
	Overall Percentage				93.5

Table 6.21: Logistic Regression Model Showing the Factors Affecting Rural Out-Migration in Koch Bihar district (N=398)

Variables in the Equation	Characteristics	B	SE.	Wald	Sig. (ρ)	Odds ratio (OR)	95% C.I.for EXP(B)	
							Lower	Upper
Age (years)	15-65®							
	0-14	-1.874	1.	3.511	.049	.154**	.022	1.090
	>65	1.898	.824	5.310	0.21	6.675	1.328	33.552
Gender	Female®							
	Male	1.353	.734	3.398	.065	3.869*	.918	16.305
Marital Status	Widowed®			1.847	.397			
	Married	2.076	1.761	1.390	.238	7.972	.253	251.305
	Unmarried	2.351	1.742	1.822	.177	10.497	.345	318.949
BPL	No®							
	Yes	-3.781	.669	31.935	.000	.023***	.006	.085
Social Groups	Others®			14.420	.002			
	OBC	-.122	.848	.021	.886	.885	.168	4.666

		B	S.E.	Wald	Sig.	Exp(B)	Lower	Upper
	ST	-2.341	1.398	2.803	.094	.096*	.006	1.491
	SC	1.818	.905	4.031	.045	6.158**	1.044	36.316
Place of Birth	Present Place®							
	Another Place	-4.623	1.390	11.057	.001	.010***	.001	.150
Types of Family	Nuclear®							
	Joint	-1.989	.625	10.140	.001	.137***	.040	.466
Literacy	Illiterate®			10.260	.068			
	Primary	-.606	.760	.636	.425	.546	.123	2.419
	Upper Primary	-.708	.953	.551	.458	.493	.076	3.193
	Secondary	.835	.892	.875	.350	2.304	.401	13.244
	Higher Secondary	-2.721	1.252	4.724	.030	.066**	.006	.765
	Graduation and Above	-.667	.954	.488	.485	.513	.079	3.333
Agricultural land	No®							
	Yes	-.916	.316	8.381	.004	.400**	.215	.744
Agricultural Land (*Bigha*)	Landless HH®			2.567	.277			
	<3	-1.454	.930	2.441	.118	.234	.038	1.447
	3 to 6	-.589	1.002	.345	.557	.555	.078	3.959
	>6			1.082	.582			
Livestock	No®							
	Yes	.710	.475	2.235	.135	2.033	.802	5.155
Types of House	*Pucca*®			2.806	.246			
	Kutcha	.643	.722	.793	.373	1.902	.462	7.830
	Semi-Pucca	-.374	.786	.227	.634	.688	.148	3.209
Separate Kitchen Room	No®							
	Yes	-.993	.657	2.280	.131	.371	.102	1.344
Monthly Income (Rs.)	>10000®			45.718	.000			
	<5000	4.316	1.487	8.428	.004	74.852**	4.063	1378.928
	5000- 10000	-.554	1.323	.175	.675	.574	.043	7.685
Income from MGNREGS (Rs.)	>10000®			12.545	.002			
	<5000	.146	1.192	.015	.902	1.157	.112	11.963
	5000- 10000	-1.706	1.170	2.126	.145	.182	.018	1.799
Monthly Expenditure (Rs.)	>9000®			13.826	.008			
	3000-5000	.711	1.154	.379	.538	2.035	.212	19.532
	5000- 7000	3.106	1.198	6.721	.010	22.324**	2.134	233.580
	7000- 9000	.703	1.155	.371	.543	2.020	.210	19.430
	Constant	1.702	2.826	.363	.547	5.486		

S.E.-Standard Error, HH- Household, POB-Place of Birth, BPL-Below poverty level.
*p<0.10 **p<0.05 and ***p<0.001 is significant at 90, 95 and 99 percent confidence level
Source: Data have been computed by the researcher based on field survey.

6.4.3. Socio-Economic Determinants of Rural Out-Migration

The rural out-migration is a common scenario and a sharedliving livelihood strategy for the rural Koch Bihar. The above table 6.17 indicates different socio-economic variables with their characteristics,are calculated by logistic regression analysis in table 6.21 for determinants of rural out-migration of Koch Bihar district in West Bengal. The binary logistic regression model was performed to assess the effect of different factors on respondents' likelihood of reporting they had engaged with out-migration. The model contained 17 independent variables in table 6.21 (age, gender, marital status, social groups, place of birth, family types, and so on). The model as a whole explained between 56.3% (Cox & Snell R Square) and 78.9% (Nagelkerke R Square) in the variation in the migrant status (table 6.18) and correctly classified 93.5% of cases (table 6.20). The full model containing all predictors were statistically significant,$x^2(8, N = 398) = 38.513, p < .001$, indicating that the model distinguished between respondents who reported and did not report they migrated (table 6.19).

Age of the respondents:Out of the total migrated respondents, 97.2 percent were ages between 15 to 65 years, and twopercent of the age group more than 65 years, which indicates most of the respondents in the study area are living in the productive age group. 30.2 percent of the surveyed respondents were non-migrants whose ages between 15 to 65 years. The chi-square test and Cramer's V are8.411 and 0.152, respectively, indicating that the null hypothesis is rejected (Table 6.23). The regression coefficient of the age group 0-14 years is -1.874,and the odds ratio (OR) is 0.154, which implies that the age groups 0-14 years have an 84.6 percentage lower risk of rural out-migration. There is a significant association of a particular age group (15 to 65 years) among the migrant population.

Gender of the Respondents: The study revealed that out of 398 respondents, 86.4 percent were male, and the remaining 13.6 percent were female respondents in the district. Among the migrating households, 59.8 percent of respondents depict that males are more migratory than females in the study area. The logistic regression results had shown a significant relationship between the choice of migration and sex.

Marital Status: The result found that out of all migrants, 54.3 percent were migrants, while 25.6 percent were non-migrant. 13.6 percent of them were unmarried. The Chi-Square test (4.158) and Cramer's V (0.102) show a lower association in the respondent status. The

logistic regression indicates that the co-efficient of unmarried respondents was 2.351, and the Odds ratio was 10.497, indicating that the unmarried respondents were more migratory by 10.497 times than the widowed respondents. Similarly, married respondents were migratory by 7.972 times than widowed respondents.

Status of BPL: This is indicating the economic background of the respondents' households. 37.7 percent of respondents hada BPL card, and the remaining 62.3 percent did not this card. Only 17.1 percent of the surveyed migrant respondents having BPL cards in the district. The status of BPL is a significant factor for rural out-migration in the district. The Chi-square test revealed a significant role of the BPL card for the decision making of migration. Cramer's V (0.385) indicates the strong relationship among the variable for the migration status. The logistic regression results focus, the regression coefficient of respondents having the BPL card is -3.781, and the odds ratio (OR) is 0.023, which indicates that the 97.7 percent of lower risk of rural out-migration of the respondents who have BPL card than who did not reveal as a BPL cardholder.

Social Groups: Out of all, 63.8 percent of the respondents belong to the Scheduled Caste groups. The calculated Chi-Square test value of 12.973 indicates a significant variation in the decision making of migration among SC, ST, OBC, and other groups of peoples. The regression coefficient of SC was 1.818, and the Odds ratio was 6.158 indicating the SC respondents are more migratory than the other caste or general caste group of population in Koch Bihar district. Similarly, OBC and ST population having a lower risk of out-migration than the other social groups.

POB (Place of Birth): The place of means where the respondents were born. These have been categorised into two ways, viz., present place and another place. The Field Study, 2017-2018 focused that most migrants have shown their present place of enumeration is the origin place. Only 8.5 percent of them recorded they came from other places. The Chi-Square revealsa relationship between the variable. The regression coefficient was 4.623, and the Odds ratio was 0.001, indicating the respondents whose place of origin was another place having 99.99 percent chances of lower risk of rural out-migration.

Types of Family: The study highlights that 71.9 percent of the respondents from nuclear families, and the remaining 28.9 percent were joint families. Out of this, 58.3 percent of the migrant respondents belongedtoa nuclear family, and 10.1 percent were from joint families.

The Chi-Square test (76.688) indicated a significant variation among their types of family in the decision making of out-migration. The Cramer's V was 0.439 indicating there were medium to extensive effects of the migration's family types. The joint family's coefficient was -1.989, and the odds ratio (OR) was 0.137, which implies that the respondents belong from a joint family having 86.3 percent lower risk of rural out-migration in the district.

Literacy Status: The study focused that 19.1 percent of the migrant respondents have completed their primary education, and 18.6 percent did not have any education (table 6.23). A Chi-square test assesses whether literacy was related to migration. The Chi-square test was statistically significant, with Cramer's V 0.303, indicating a medium to the high relationship. The regression coefficient of the respondents who have completed secondary education is 0.835, and the odds ratio (OR) is 2.304which implies that they have a 2.304 times higher risk of rural out-migration than the illiterate respondents. Similarly, other results show the respondents having primary, upper primary, higher secondary, graduation and above education have lower chances of out-migration than those who did not have any education.

Agricultural Land: Study focsed household having agricultural land indicating 60 percent of lower chances of rural out-migration (OR=0.40). Out of all out-migrant respondents, 49.2 percent had cultivable land, while 16.1 percent were non-migrant. The Chi-Square (17.191) and Cramer's V (0.208) indicated a significant agricultural land variation. Moreover, this was interesting to note that out of all out-migrants, 36.2 percent of respondents having less than three*bighas* cultivated land. The logistic regression shows that the respondents who did not have any cultivable land more migratory than those with cultivable land.

Livestock: About 50 percent of the respondents were engaged with livestock. The Chi-Square test found there was a significant impact of livestock in their migration status. The regression coefficient was 0.710 and OR was 2.033, indicating that those householdsthat did not rear livestock were more migratory by 2.033 times than non-livestock households.

Types of houses: The Chi-Square test (28.917) and Cramer's V (0.269) revealed significant variations among migrant and non-migrants' households. 46.2 percent of the respondents revealed they had *Kutcha* houses, and only 20.6 percent indicated they had *pucca* houses. The Kutcha house's regression coefficient was 0.643, and the Odds ratio was 1.902

indicating the households having *Kutcha* houses were migratory by 1.902 times than the households having the *pucca* house.

Separate Kitchen Room: Out of all migrant households, 56.3 percent have separate kitchen rooms, while only 28.6 percent of non-migrants have separate kitchen rooms. The Chi-Square test was statistically significant with their lower effect of Cramer's V (0.106). The regression coefficient of households having separate kitchen room was -0.993, and the odds ratio was 0.371 indicating 62.9 percent chances of lower risk of rural out-migration than the households did not have separate kitchen rooms.

Monthly income: There are three categories of monthly income Rs. <5000, Rs. 5000-10000 and Rs. >10000.The income of the respondents and their decision of migration having a significant relationship. The Chi-Square test focused on a significant variation in the monthly income, and the null hypothesis was rejected. High Cramer's V (0.53) also indicating the high effect of monthly income within the respondent's status. The logistic regression shows the coefficient of less than Rs. 5000 was 4.316 and the odds ratio (OR) was 74.852, which implies that the households with less than Rs income. 5000 per month, they have 74.852 times higher risk of out-migration. Similarly, those household income having Rs.5000 to 10000 per month were 42.6 percent lower risk of migration than the household's income having Rs. >10000 per month.

Wages from MGNREGS: MGNREGS is a rural employment guarantee scheme that provides 100 days job to households belonging to rural areas. This job is depending based on applied rural household. It has a significant relationship for decision making of out-migration of the households. The case study shows annual wages earned under this scheme Rs. <5000, Rs. 5000-10000 and Rs. >10000 were 45.3 percent, 48.7 percent, and 6 percent household respectively. The logistic regression shows the coefficient and odds ratio (OR) of the household's wages earned under MGNREGS Rs. 5000-10000 were -1.706 and 0.145, which implies those households who earned wages under Rs. 5000-10000 they have 85.5 percent lower risk to the decision of migration. Similarly, those households having earned less than 5000 having 1.157 times higher rates risk of rural out-migration than the households who have earned Rs. >10000 under this scheme.

Monthly Expenditure: Out of all migrant respondents' majority of them reveals their monthly expenditure within Rs. 3000 to 5000 per month. The Chi-Square test (23.321) and

Cramer's V (0.242) test indicated a significant variation in the monthly expenditure among the migrant and non-migrant households in the district. The calculated Odds Ratio of the logistic regression shows that the higher the monthly expenditure in a family,the higher themigration decision risks.

6.5. Conclusion:

The above discussion identified different socio-economic determinants of rural out-migration in Koch Bihar district. Since the study, it is clear that the people who belong to the rural areas are highly migrated for their livelihood. The facilities in the destination places are very high than the origin places. In this light government will take some policies for reducing the rural out-migration from the district. The significant findings are;

1. Based on the last residence for the causes of migration based on age, sex, and residence duration less than one year, 1-4 years, 5-9 years, more than ten years, and all residence duration.

2. Migration with household covers 37.3percent and 35.10 percent in 2001 and 2011 respectively. The work/employment covers 38.4 percent of males in 2001 28.01 percent males in 2011.Both the census shows the majority percent of females are migrated with their household due to different socio-economic causes.

3. The research shows for the males, the fundamental reason for rural to rural out-migration was employment (19.78%), followed by moved after birth (26.18%), moved with household (25.38%), education (6.78%), marriage (5.60%), business (0.98%) and others (15.30%). For the females, marriage (74.69%) was the most important reason for migration, followed by family moved (9.08%) and moved after birth (7%). Among the females, education was still not a prominent reason, 1.55 percent and 0.19 percent.

4. The study reveals causes for rural to urban migration in 0-9 year's duration in India, where the majority of the male migrants moved from villages to urban area reason of moved after birth (45.88%), followed by family moved (20.97%), work or employment (16.12%) and so on 42.02 % females were migrated due to marriage followed by moved after birth (28.86%), moved with household (18.96%) and so on. Another table-5.9 found (excluding marriage) most of the female migrated from rural to an urban area due to moved after birth (49.79%) and reason of family moved (32.69%).

5. National Sample Survey Organisation, 2007-08 found causes of inter-state rural male out-migration are employment (79.9%) and remaining 7.8 percent for studies, 7.6 percent for movement with parents or earning member and 3 percent for other related reason in India.

6. Causes of male out-migration due to employment in more than 80 percent in Assam (94.9%), Bihar (88.1%), Goa (83.2%), Jammu & Kashmir (90.5%), Jharkhand (82.6%), Odhisha (87.2%), Punjab (83.1%), Rajasthan (80.2%), Tamilnadu (84.4%), Tripura (90.2%), Uttarakhand (84.4%), Uttar Pradesh (82.5%) and West Bengal (89.4%) (NSSO, 2007-2008).

7. National Sample Survey Organisation, 2007-08 found causes of inter-state rural female out-migration occurred due migrated due to marriage (83.4%) while 2.3 percent are females migrated due to work or employment.

8. Causes of female out-migration due to marriage in more than 80 percent in Assam (87.1%), Delhi (100%), Gujarat (86.3%), Haryana (92.2%), Himachal Pradesh (84.3%), Jammu & Kashmir (95.4%), Karnataka (84.6%), Maharashtra (84.7%), Nagaland (82.4%), Punjab (91.3%), Rajasthan (87.8%), Tamil Nadu (83%), Tripura (83.8%), Uttar Pradesh (83.5%), West Bengal (94.7%), Chandigarh (84.3%), Daman & Diu (88.8%) and Puducherry (91.7%)(NSSO, 2007-2008).

9. It would be seen from the data that reveals the majority of the rural out-migrants (60%) migrated from rural areas to another region due to lack of employment or unavailability of jobs in rural areas of the district. The lack of land accounted for 20.7 percentage and rural out-migration for business 8.9 percentage of the block's total rural out-migration. The remaining pull factors like availability of job in urban areas, high income and high wages, facilities of education etc., determine the rural out-migration in the block and the district.

10. The study highlights that 88.9 percent of males and the remaining 11.1 percent are female out-migrants in Koch Bihar district. Of these, 54.8 percent of males migrated for employment or worked for their livelihood, whereas 5.2 percent were females. It is essential to note that 17.8 percent of males and 3 percent of females were out-migrated due to the lack of agricultural land. It is interesting to note that 8.1 percent of male and 0.7 percent of females were migrated due to business-related work. Both males and females are indicated as migrated with the family of 3 percentage of total migration.

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CHAPTER-7

CONSEQUENCES OF RURAL OUT-MIGRATION IN THE DISTRICT

CHAPTER-7

CONSEQUENCES OF RURAL OUT-MIGRATION IN THE DISTRICT

7.1. Introduction:

Migrations are an intrinsic part of the new process of globalisation and internationalisation, which is doubtless for international and relative research (Thränhardt, 2012).Migration is the essential character of India's rural livelihood and has been considered as "the step-child of demography" (Bhowmik, 1984). According to Black et al. (2006),"the migration was often seen as a product of poverty in the study regarded migration and development."It has a significant consequence on people's social, economic, demographic, and psychological lives, in the place of origin and as well as in the destination. Migration has an economic root thatpredominantly affects socio-political and cultural consequences. Rural to urban migrant executes its impact on urban areas. However, it has a tremendous impact on rural areas, and the long-term male out-migration to the urban area significantly changes demographic characteristics such as sex, age, and social composition in the source of origin labour in the rural areas. As a result, the worse effect is witnessed in India's economic and health aspects where Excessive young out-migration from rural areas leaves the burden of older and children who are less effective behind. The study also found that the long-term implications of agriculture labour force storage are likely to result in a decline in rural families' health status, including a rise in mortality and a rise in child farmworkers. The study by Ohankhuele and Opanfunso (2013) focused on the pulled youth migrants to the urban areas, create unavailability of labour forces and agricultural production in the study origin area(Okhankhuele & Opafunso Dean, 2013).

7.2. Consequences of Rural Out-Migration:

The consequences of out-migration are observed in both origins as well as the destination area. The consequence of out-migration generally depends on migration characteristics like the volume of out-migration, out-migration flow, etc. According to Miheretu (2011), "in developed countries, the flow of labour from areas of low marginal productivity to high marginal productivity is normal and is accepted as an ingredient for development by raising labour efficiency at both ends, i.e., places of origin as well as destinations." On the other hand, Oberai (1987) foundpopulation migration from low to high income areas for increased income. So, it indicates the benefits of rural-out-migration. Gebru and Beyene (2012) focused on a case study based survey where it shows the weak condition of migrant households by their living condition, educational status, unemployment, etc. They also

identified the adverse effects of migration on livelihood, losing productive labour, and health status. Amrevurayire and Ojeh (2016) reveal that it dramatically impacts socio-economic, demographic, and cultural factors. They found some positive consequences like better job opportunities, better education, remittance back to home, etc., and some negative consequences like reducing agricultural production, reducing farm labour, and reducingthe population at the origin. Singapur et al. (2014) reveal the cost and benefits of migration for both the sending and societies. By this study, it may identify the positive and negative impact of both sending and receiving society. An earlier study by Barman and Roy (2019) focused that the migrant household increased the working days in a month after migration. The inequality or disparity of socio-economic conditionsamong the migratns has been removed after out-migration (Moses et al. 2017). Even we found the study from developed countries like the United States of America (USA), Morrison (1972) studied migration affects rural living standards and employment. It increases economic sustainability after leaving the rural areas, and the majority of the migrants feel that they would spend better livelihood after out-migration. The rural-urban migration affects the rural areas (origin); it impacts urban housing, quality of life, and environment (destination). Bimerew (2015) also found that it has a significant impact on both the origin and destination regions. According to his study, most surveyed respondents reported that the urban area was encountered by the rapid population growth and the problems increased in housing, education, healthcare, job accessibility, and overall urban life.

Migration changes the characteristic of the population in the region of out-migration and the region of in-migration. It changes the population's age and sex composition with the rate of the growth of the population. The proportion of old, children and females increase due to out-migration in the region where most of them are youth population. Consequently, these areas are depleted of the youth population and result in lowered births and lower population growth rates. As a consequence, the proportion of economically dependent population increases as the relative share of economically active working labour forces is reduced, leading to a decrease in rural productivity. Out-migration consequences have been studied before and after the situation in the following framework (figure 7.1).

Figure 7.1: Consequences of Rural Out-Migration in Koch Bihar District

Consequences

Economic — Socio-Denographic

Occupation
- Before
- After

Working Days
- Before
- After

Wages/Income
- Daily — Modes of Payment
- Weekly — Modes of Payment
- Monthly — Modes of Payment
- Others — Modes of Payment

Remittance Income

Nature of Remittance

Remitances Purpose
- Food consumption — Pay of Debit
- House Renovation — Clothing
- Agricultural Improvement — Others

Modes of Remittance
- By own bank Accounts
- By others bank acccounts
- Post Office Account
- Through Fellow migrant workers

Remittance per Month (Rs.)
- Rural area of others District
- Rural Area of Koch Bihar
- Urban area of Koch Bihar
- Urban area of others District
- Rural areas of Other state
- Urban area of other state

Expenditure
- Before
- After
- Inequality

Inequality

Working Skill
- Before
- After

Cultural Diffusion
- Use of Dresses
  - Before
  - After
- Use of Language
  - After
  - Before

Impact of Women
- Women Decision Making

Impact on children
- Education
- Behavour
- Others

Source: Compiled by the Researcher

7.2.1. Economic Consequences:

7.2.1.1. Occupational Status

Out-migration affects the occupational status of the migrants. People migrated out and send remittances to their householdsfor their economic prosperity. The study focuses that out-migration's main motive is the improvement of the economic condition through occupational mobility. The duration of the out-migrants to the destination depends on the occupational prestige and income of the migrants (De Jong and Blair, 1994).

Table 7.1: Percentage Distribution of Occupation Out-Migrants Before and After Out-Migration

Occupation Before Migration	Percent	Occupation After Migration	Percent
Agriculture	18.4	Agriculture	8.8
Casual labour	42.6	Construction labour	41.2
Household industry	2.9	Factory labour	17.6
Business	2.9	Labour at brick kilns	8.8
Student	8.8	Household industry	2.9
Others	9.6	Govt Service	3.7
Unemployed	14.7	Business	8.1
-	-	*Thikadar*	5.9
-	-	Others	2.9
Total	100	Total	100.0

Source: Field Study, 2017-2018

Figure 7.1: Percentage Distribution of Out-Migrants Before and After Rural Out-Migration
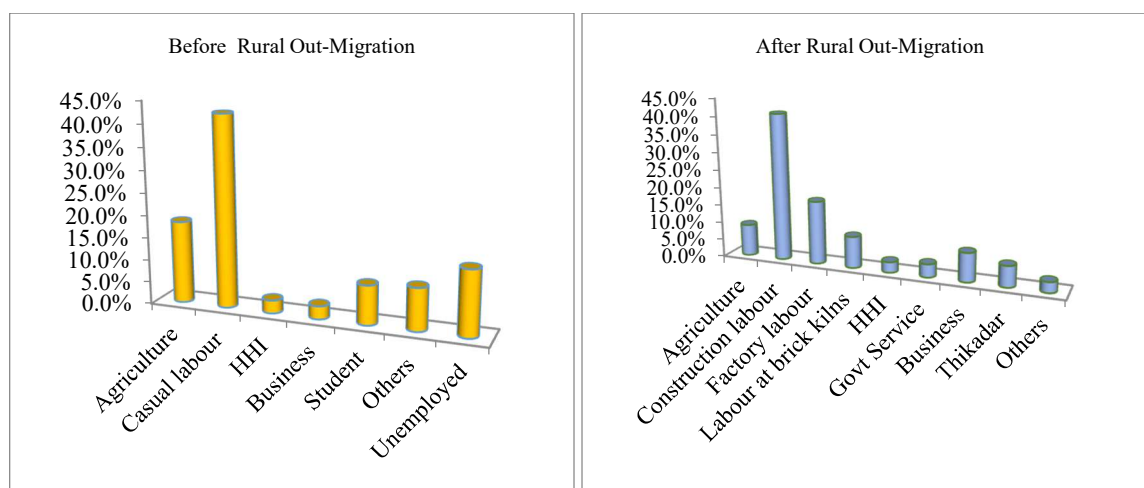
The study found there are different activities of migrants before out-migration in the district is agriculture (18.4%), casual labour (42.6%), household industry workers and business (2.9%), student (8.8%), others (9.6%), and 14.7 percent were unemployed. The result has

been changed after out-migration, we found that the activity of agriculture (8.8%), construction labour (41.2%), factory labour (17.6%), labour at brick kilns (8.8%), household industry workers (2.9%), government service (3.7%), business (8.1%), Thikadar (5.9%) and 2.9 percent in others activity (table 7.1 and figure 7.2). The Chi-square test was statistically significant on out-migrants' activity after out-migration, (6, N=272) = 144.721, p <.001.

7.2.1.2. Impact on Working Days

Out-migration has also affected the number of working days before and after rural out-migration. The study found thatmost out-migrants (43.4%) were worked two days within a week before rural out-migration, whereas only 3.5 percent of out-migrants were worked at least five days a week before out-migration. The following table 7.2 focused that, after out-migration, most migrants (52.9%) are working all the days in a week.

Table7.2: Percent Distribution of Number of Days Worked Before and After Rural Out-Migration

Percent (%)		Number Of Days Work After Migration							Total
		1	2	3	4	5	6	7	
Number of days work Before Migration in a Week	1	.7	0	0	2.9	7.4	5.9	5.9	22.8
	2	.7	0	0	.7	6.6	5.9	29.4	43.4
	3	0	0	0	1.5	2.9	7.4	16.9	28.7
	4	0	0	0	0	.7	0	.7	1.5
	5	0	.7	2.2	0	.7	0	0	3.7
Total		1.5	.7	2.2	5.1	18.4	19.1	52.9	100.0

Source: Field Study, 2017-2018

The Chi-square test was statistically significant on the number of days worked after out-migration, $\chi 2$ (6, N=272) = 201.029, p <.001, indicating a significant change of working days of rural out-migration in Koch Bihar district.

7.2.1.3. Impact on Wages/ Income

The study revealed that out-migration has an enormous scale impact on income, affecting the regional earnings (De Silva et al. 2010) and economic growth (Haque and Kim, 1965). The following focuses that, before out-migration majority (40.4%) out-migrants were collected their weekly wages, whereas 26.5 percent of daily wage collection after work. After migration, the status was changed, which shows 56.6 percent were collected monthly-wise after out-migration.

Table7.3: Status of Wages Received Before and After Rural Out-Migration

Percent (%)		Wages (Rs) Received After Rural Out-Migration				Total
		Daily	Weekly	Monthly	Others	
Wages (Rs) Received Before Out-Migration	Daily	5.1	7.4	11.0	2.9	26.5
	Weekly	1.5	6.6	32.4	0	40.4
	Monthly	0	13.2	6.6	0	19.9
	Others	0	6.6	6.6	0	13.2
Total		6.6	33.8	56.6	2.9	100

Source: Field Study, 2017-2018

The above table 7.3 shows the Chi-square test was statistically significant on the wages received of out-migrants after out-migration, χ^2(3, N=272) = 103.471, p <.001, which indicates there was a significant impact on the way of wages collection of rural out-migrants in Koch Bihar district.

Table 7.4: Modes of Wages Received Before and After Rural Out-Migration

Percent (%)		Wages received after migration through			Total
		By cash	Bank account	Others	
Wages received before migration through	By cash	33.8	40.4	11.8	86.0
	Bank account	5.1	4.4	.7	10.3
	Others	3.7	0	0	3.7
Total		42.6	44.9	12.5	100

Source: Field Study, 2017-2018

The Field Study, 2017-2018 found that most migrants received their wages before migration through cash (86%), whereas it was only 10.3 percent only through the bank account. The amount has been changed after out-migration; the result shows that 44.9 percent of respondents received their wages through the bank account. From Chi-square test, the result of wages received after out-migration was statistically significant where χ^2 (2, N=272) = 26.662, p <.001, which indicates there was a significant change in wage receiving processes in the district (Table 7.4).

The out-migration exerts an impact on both employment and wages (Chassamboulli and Palivos, 2013). Dessendre et al. (2002) also discussed in their working paper "the impact of migration on wages: empirical evidence from French youth," focused on thr impact of wages of migration. In another study by Kundu (2013), out-migration has a more significant impact on respondents' annual income and family welfare development. The

study found that out-migration influences the growth of the host families' per capita income (Friedberg and Hunt, 1995; Jaumotte, 2016).

Table 7.5: Wages/Income (Rs. Per month) of Out-migrants Before and After Rural Out-Migration

Sl. No.	Wages (rupees)	Before Rural Out-Migration (%)	After Rural Out-Migration (%)
1	<3000	25.0	0
2	3001-5000	53.7	.7
3	5001-7000	8.8	8.1
4	7001-9000	5.9	23.5
5	>9000	6.6	67.6
	Total	100.0	100.0

Source: Field Study, 2017-2018

Figure 7.2: Wages/Income (Rs. Per month) of Out-Migrants Before Rural Out-Migration
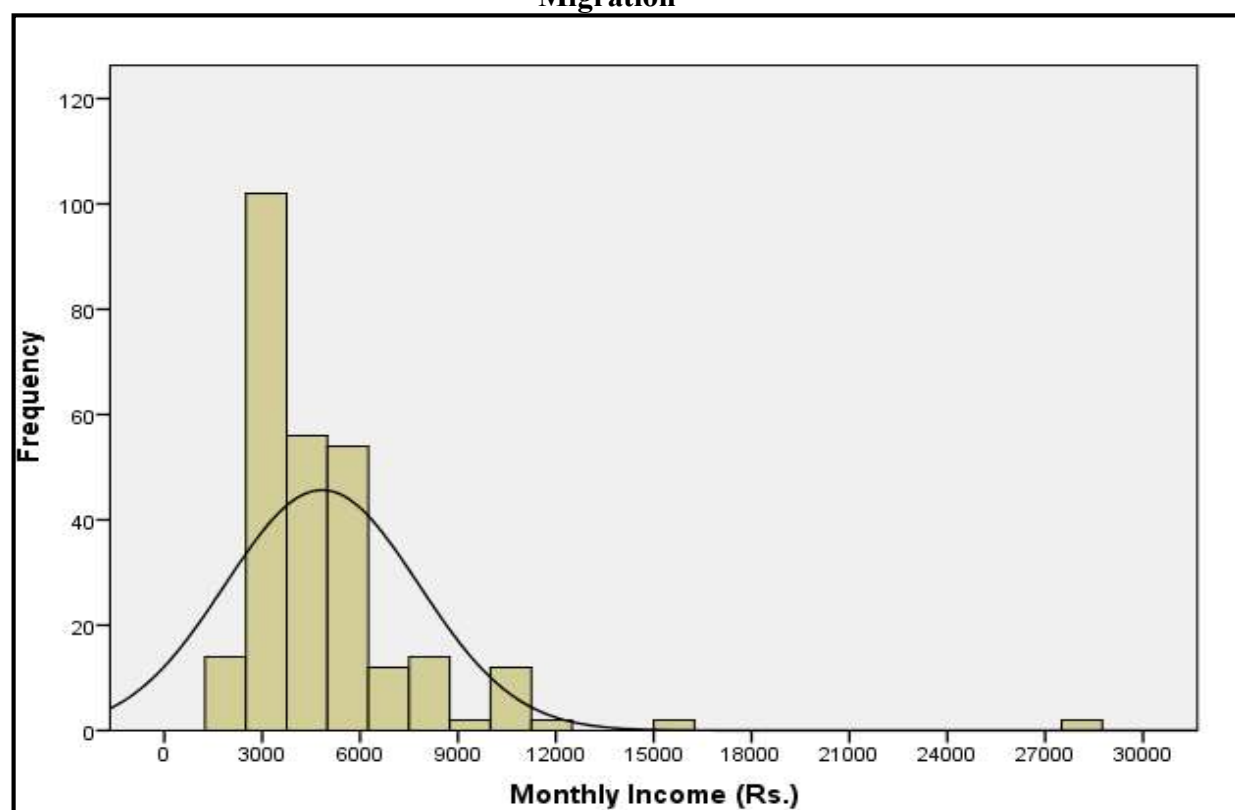
Figure 7.3: Wages/Income (Rs. Per month) of Out-Migrants After Rural Out-Migration
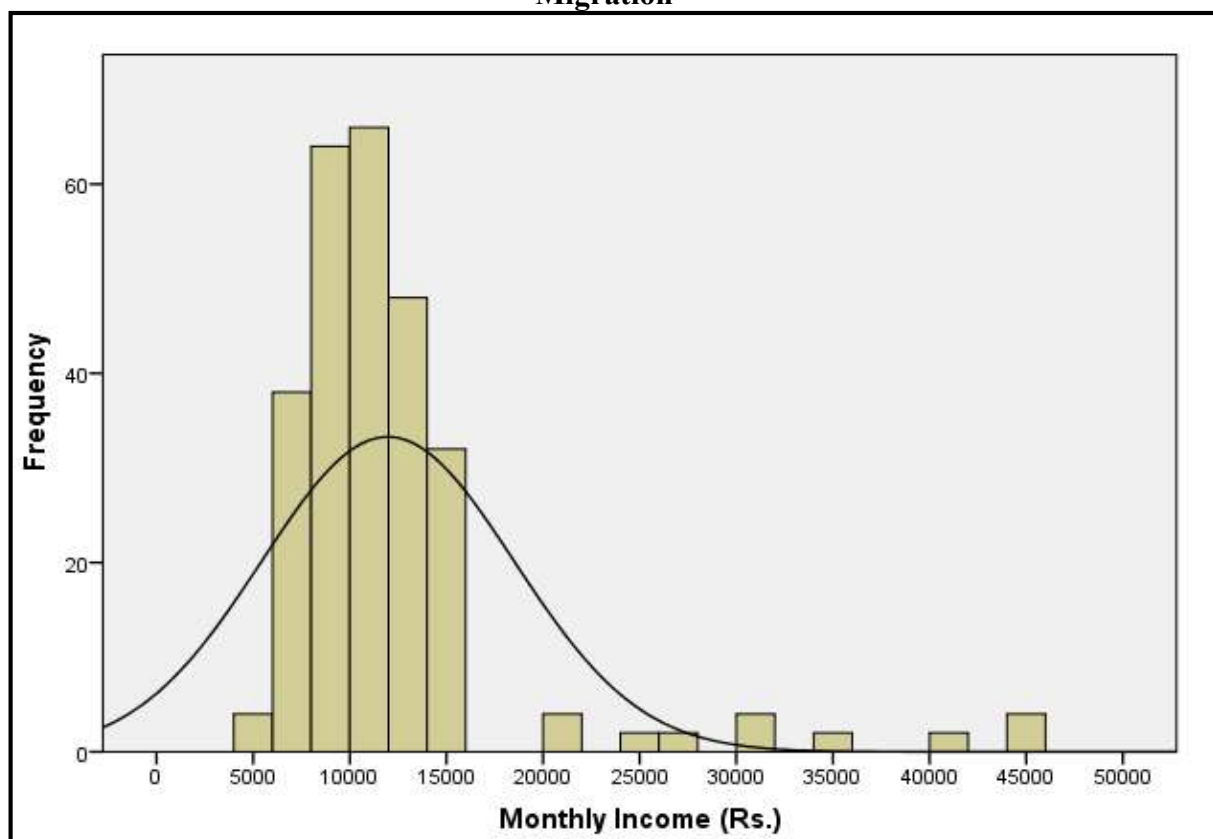
From the above table 7.5 and figure 7.3 focused that 53.7 percent of the respondent's wages within rupees 3001 to 5000, whereas it was only more than rupees 9000 for 6.6 percent of respondents. Figure 7.4 has been changed after migration, where it shows 67.6 percent of them earned wages more than rupees 9000 per month.

7.2.1.4. Impact on Expenditure

Out-Migration also increases the expenditure on consumption and increases the savings and investment that changes in the lifestyle, impact on dressing and socialising of the family members, and the impact on communication and language.

Table 7.6: Expenditure (Rs.) of Out-Migrants on Before and AfterRural Out-Migration

Expenditure (rupees)/month	Before Out-Migration (%)	After Out-Migration (%)
<3000	9.6	0
3001-5000	42.6	15.4
5001-7000	34.6	46.3
7001-9000	9.6	23.5
>9000	3.7	14.7
Total	100	100

Source: Field Survey, 2017-2018.

Figure 7.4: Monthly Expenditure (Rs.) of the Respondents Before Rural Out-Migration
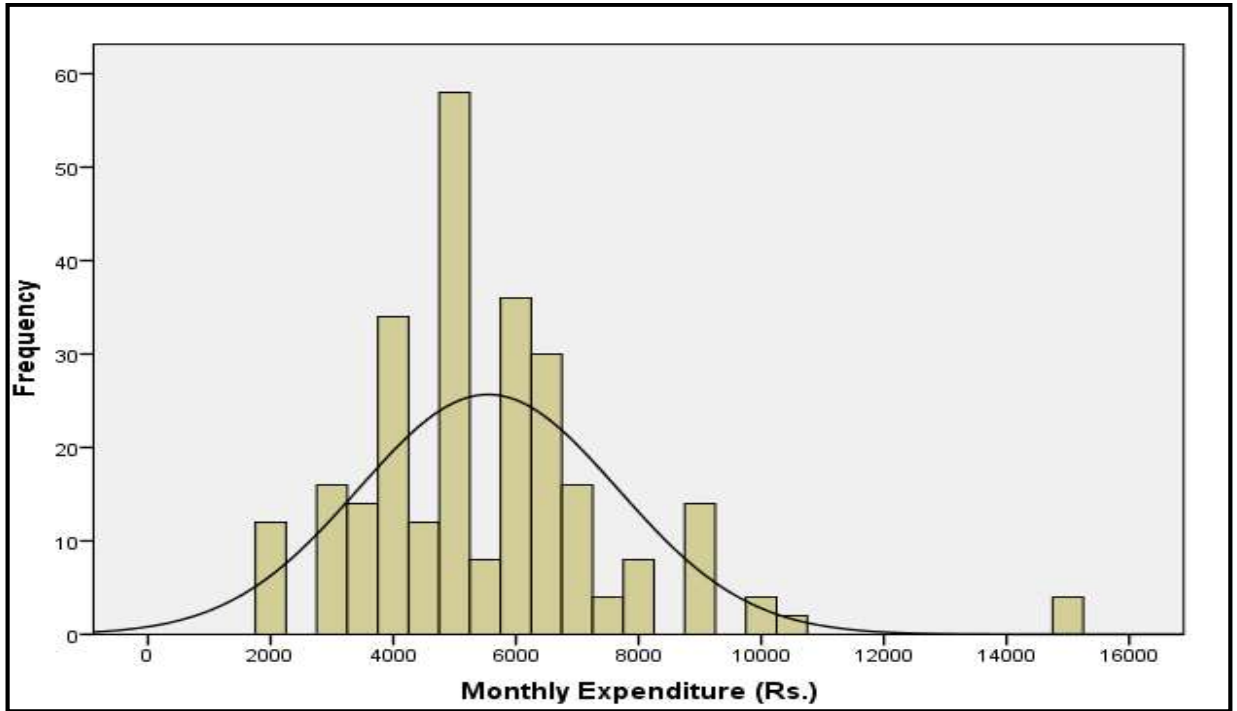
Figure 7.5: Monthly Expenditure (Rs.) of the Respondents After Rural Out-Migration
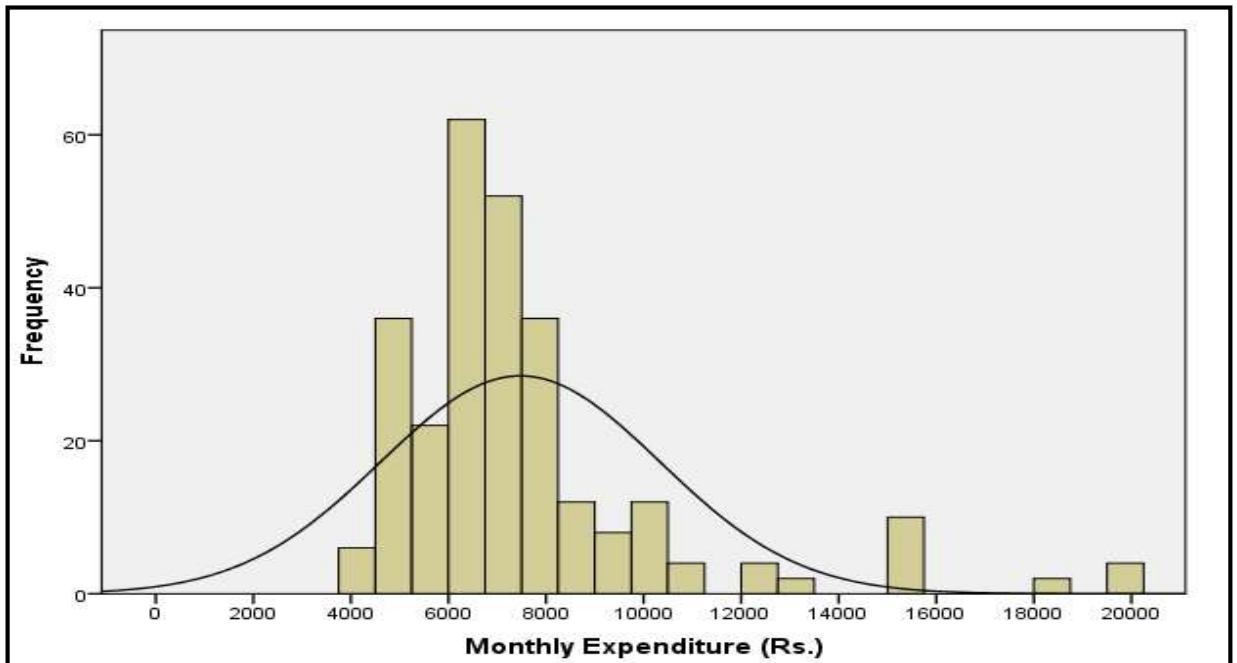
Figure7.6: Lorenz Curve Showing the Inequality between the Income and Expenditure before Rural Out-Migration, Koch Bihar District
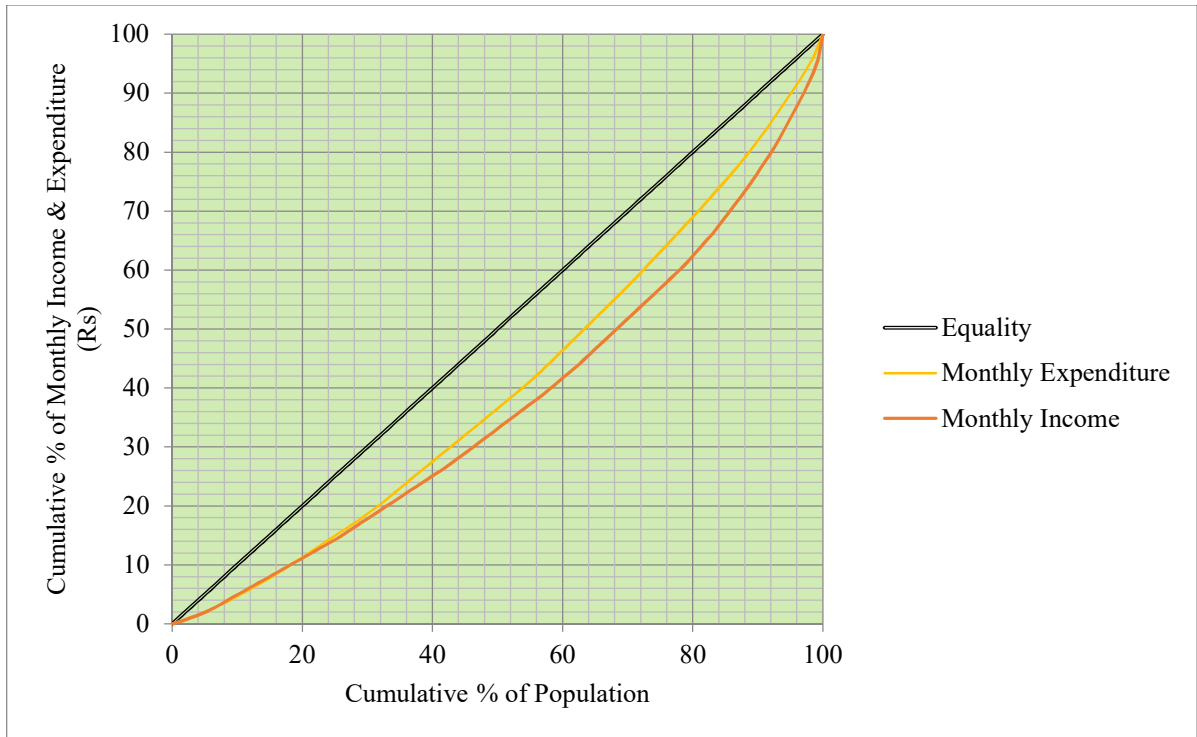
Figure7.7: Lorenz Curve Showing the Inequality between the Income and Expenditure after Rural Out-Migration, Koch Bihar District
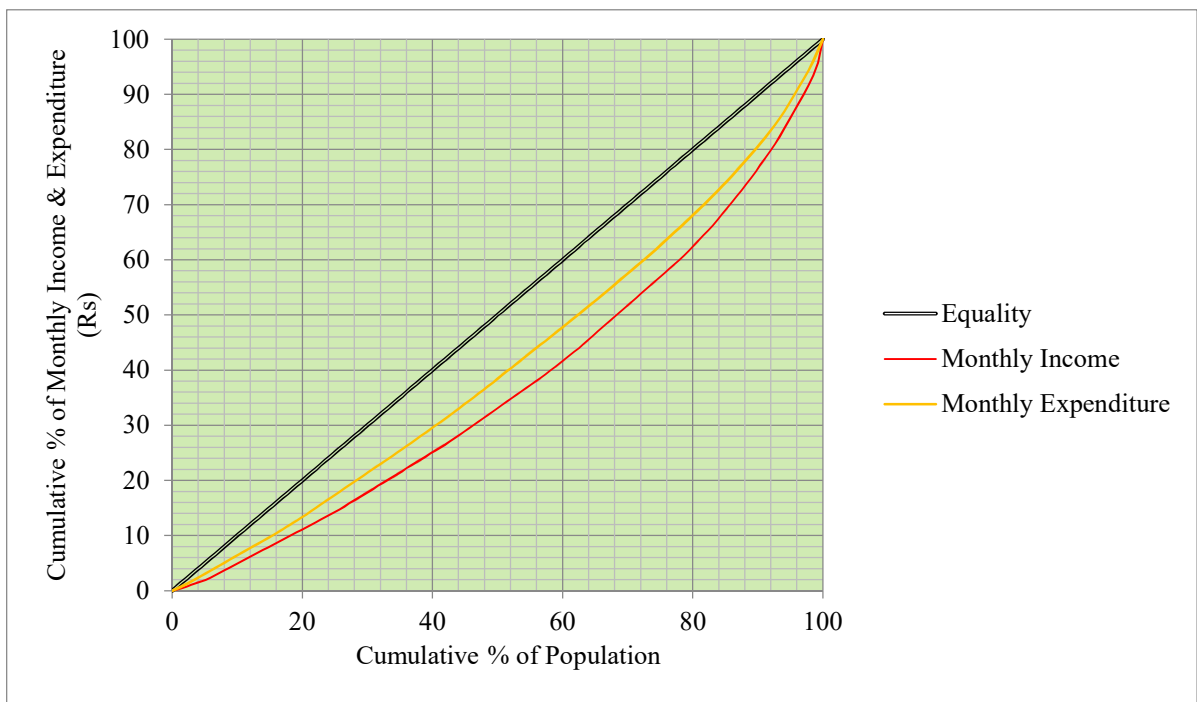
Various literatures found that respondent's expenditure of consumption has been relatively increased after out-migration from the origin, which affects the savings of the

migrants. The savings generally depends on the migrant income and expenditure with the nature of out-migration (Murad, 2016; George et al. 2011 and Bauer & Sinning, 2011). The Field Study, 2017-2018 in the district revealed that 42.6 percent of the out-migrants monthly expenditure was rupees 3000.00 to 5000.00 per month before out-migration while it has been increased to 46.3 percent for rupees 5000.00 to 7000.00 per month after out-migration (figure 7.5 and 7.6). The above figure of the Lorenz curve shows that the savings of out-migrants have also increased after out-migration (figure 7.7 and 7.8)

7.2.1.5. Impact on Remittance

In this case, 'remittances' generally refer to money transmitted to villages by the migrants while they are away. The primary aim of their out-migration is remittance. Actually, rural to rural out-migration indicating lower remittances where it has higher from urban to rural migration. The flow of remittances may depend on the links between migrants and their families' needs (Debnath, 2003). Olney (2015); Hagen-Zanker (2015) revealed that remittance affects the wage at the origin of the migrants and increases household income, leading to poverty. De Haas (2007) also found that remittances increase income and living conditions. There is a positive sign of rural out-migration for the rural Koch Bihar district which is showing rural development by the remittance money. The main limitation of the work is the data unavailability of data related to remittances, and in this situation, this study has been based on primary data in the Koch Bihar district.

The present study focuses that 41.2 percent of the out-migrants are engaged in the construction sector. If the out-migrants settle with their family at the destination,they usually do not need to send the money as per table 7.7. Most of the significant outcome of out-migration is the remittances, which influence the individual and household's consumption pattern and lifestyle, especially in the district where most out-migrant households reported to have received remittances. The frequency of receiving remittances was on a regular or monthly basis (table 7.7).

Table 7.7: Nature of Remittance to the Origin from the Rural Out-Migrants

Nature of remittance	Frequency	Percent	Cumulative Percent
Monthly	146	53.7	53.7
Quarterly	74	27.2	80.9
Yearly	18	6.6	87.5
Yet to be sent	34	12.5	100
Total	272	100	

Source: Field Study, 2017-2018

Table 7.8: Modes of Remittances to the Origin from the Rural Out-Migrants

Modes of remittance	Frequency	Percent	Cumulative Percent
By own bank account	154	56.6	56.6
By other bank accounts	40	14.7	71.3
Post office	26	9.6	80.9
Through fellow migrant workers	52	19.1	100.0
Total	272	100	

Source: Field Study, 2017-2018

Figure 7.8: Nature of Remittance to the Origin from the Rural Out-Migrants in Koch Bihar District
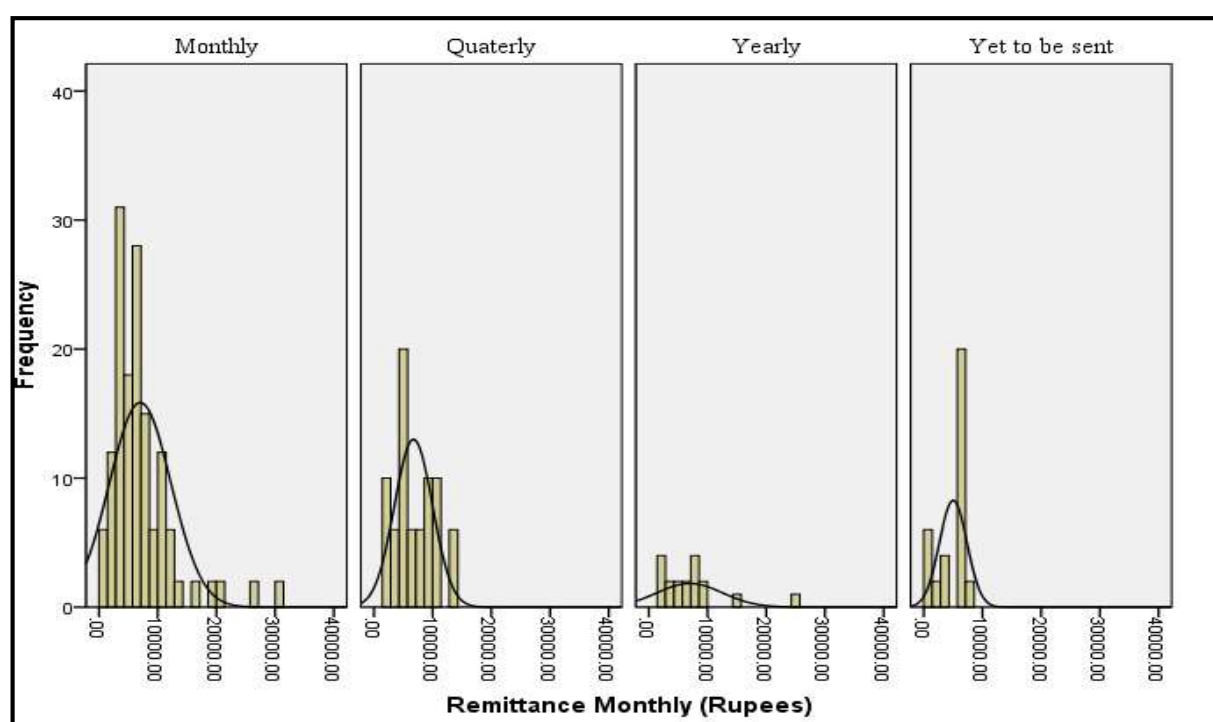
The above table 7.7 and histogram show that 53.7 percent of the migrant respondents send money every month to their home, while 27.2 percent send money quarterly and 6.6 percent yearly (figure 7.9). It also clears that 87.5 percent of the total sample out-migrants family members are the recipients of such remittance, from the Chi-test χ^2 (3, $N=272$) = 143.765, $p <.001$ and H_o rejected which indicating that the migrants are not equal concerning the nature of remittances.

Figure 7.9: Modes of Remittances to the Place of Origin from the Rural Out-Migrants in Koch Bihar District
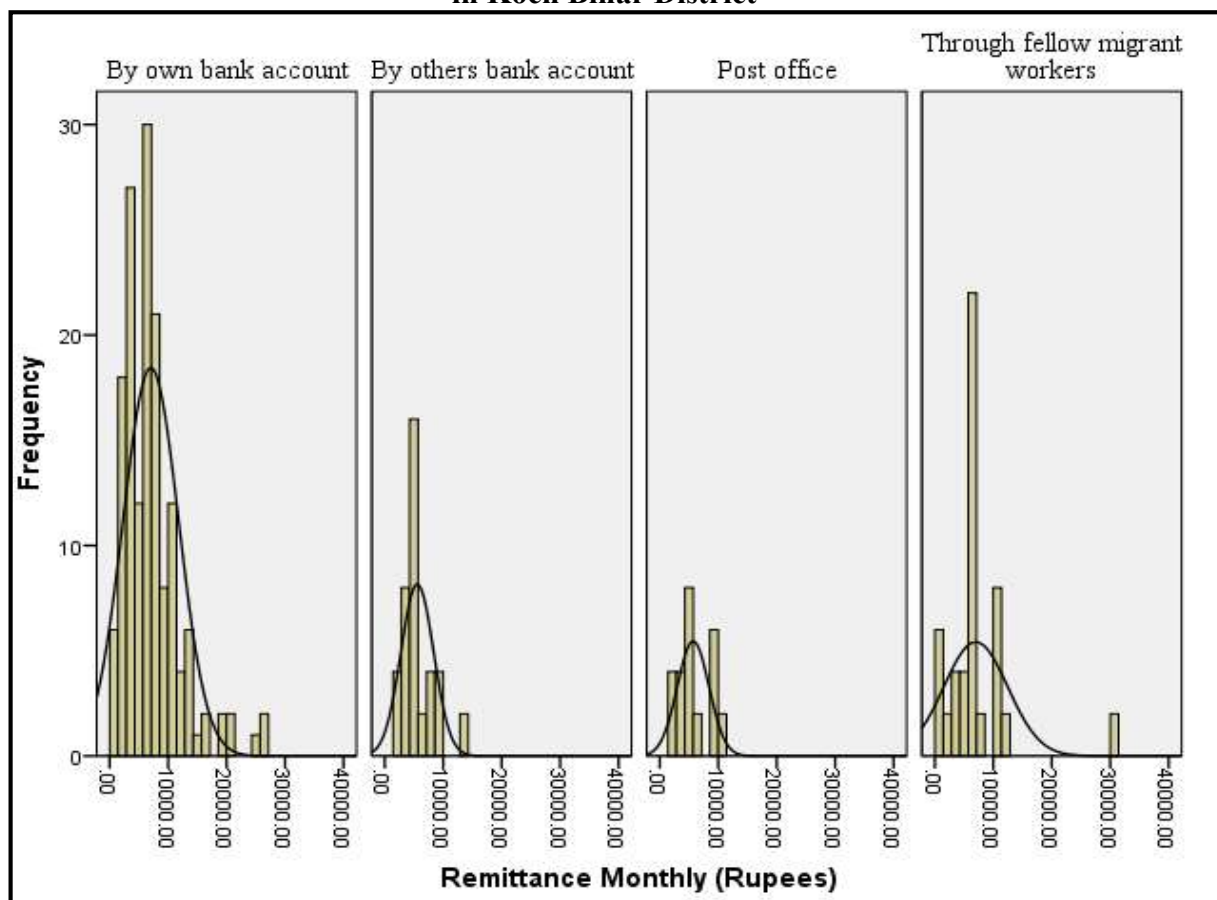
It is also clear that most out-migrants (56.5%) send money through their bank account while 14.7 percent of them send it by others bank account. 19.1 percent of the out-migrants send their money to the family at the origin through fellow migrant workers. From the Chi-test χ^2 (3, N=272) = 150.0, p <.001 and H$_o$ rejected, which indicating that the migrants are not equal concerning the modes of remittances.

Table 7.9: Remittances to the Place of Origin per Month (Average) from the Rural Out-Migrants

Amount (*Rupees*)/month	Frequency	Percent	Cumulative Percent
<3000	56	20.6	20.6
3001-5000	62	22.8	43.4
5001-7000	62	22.8	66.2
7001-9000	40	14.7	80.9
>9000	52	19.1	100.0
Total	272	100.0	

Source: Field Study, 2017-2018

Figure7.10: Remittances to the Place of Origin per Month (Average) from the RuralOut-Migrants in Koch Bihar District
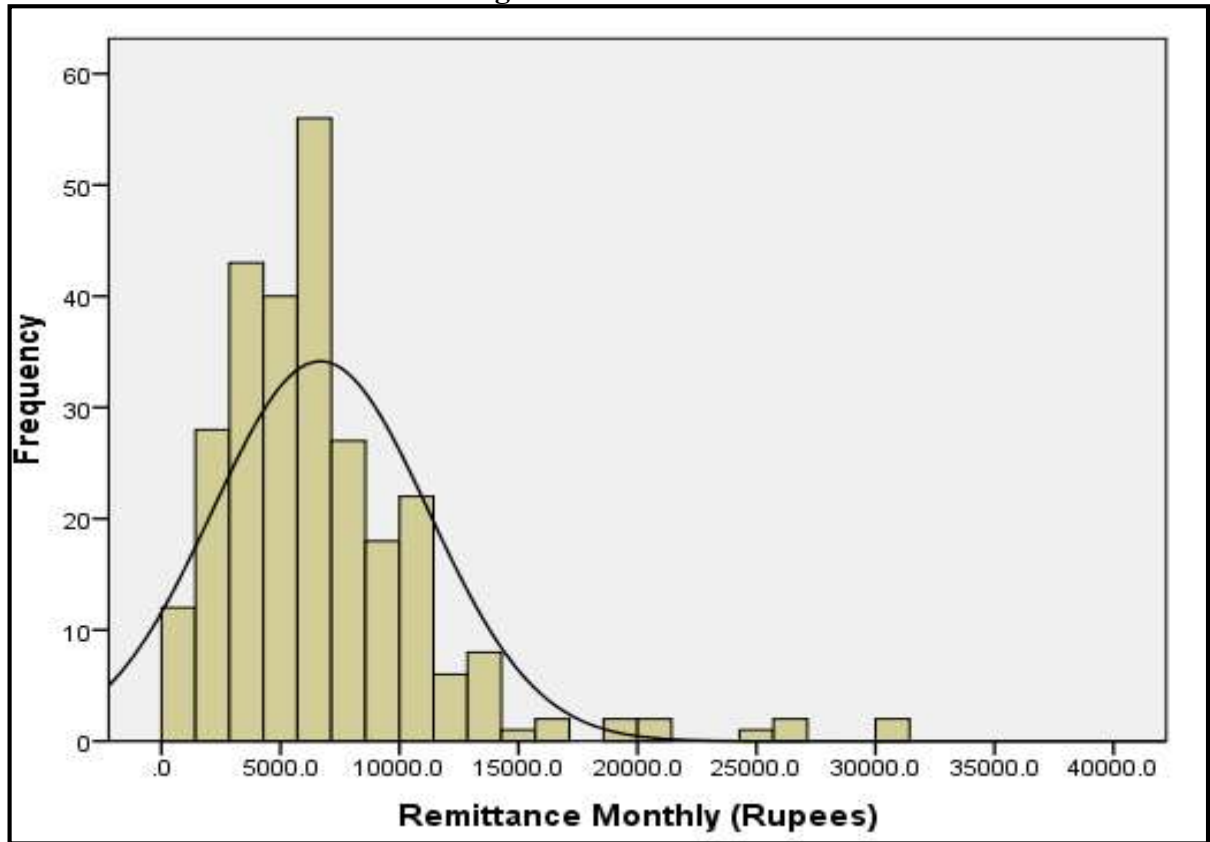
The above table 7.9 and figure 7.11 shows the sample study on monthly remittance that 45.6 percent of the out-migrants send money rupees 3000.00 to 7000.00 per month while 20.6 percent of them send money less than rupees 3000.00 per month, which is a meagre amount. 14.7 percent of the respondents send money rupees 7000.00 to 9000.00 per month, while only 19.1 percent of the migrant send money more than rupees 9000.00 per month, from the Chi-test χ^2 (4, N=272) = 6.088, p <.001 and H$_o$ accepted which indicating that the migrants are equal concerning the remittances to the origin per month (average). According to Debnath (2003), there is "no absolute correlation between savings and economic change can be established. But economic change and development do depend to a large extent on the proper and adequate utilisation of savings."

Figure 7.11: Monthly Remittances According to the Place of Destination from Rural Out-Migrants, Koch Bihar District
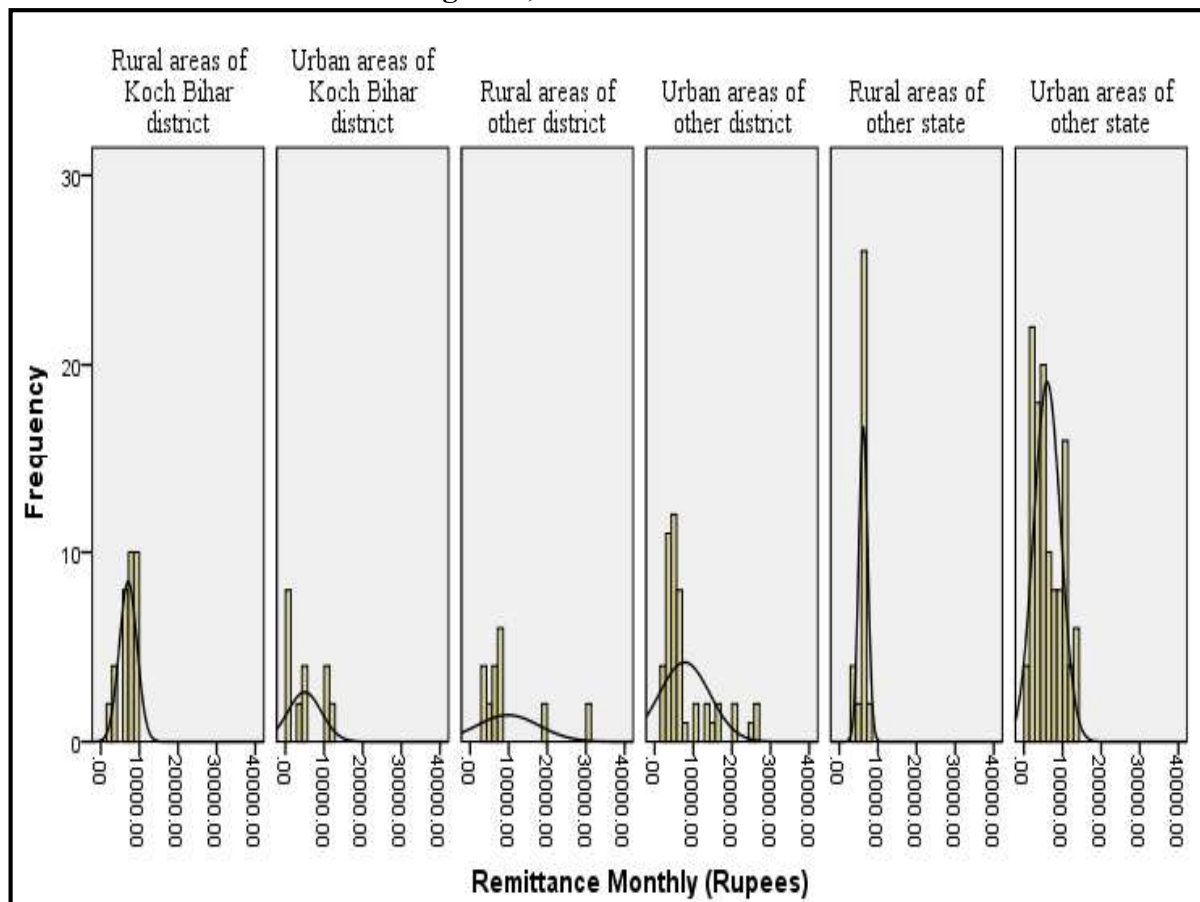
Table 7.10: Monthly Remittances According to their Destination

| Average remittance per month (Rs.) | Choice of Destination (%) | | | | | | Total (%) |
	Rural areas of Koch Bihar district	Urban areas of Koch Bihar district	Rural areas of other districts	Urban areas of other districts	Rural areas of other states	Urban areas of other states	
<3000	1.5	2.9	0.0	2.9	.7	12.5	20.6
3001-5000	.7	1.5	1.5	7.4	1.5	10.3	22.8
5001-7000	2.9	.7	2.2	2.9	9.6	4.4	22.8
7001-9000	6.6	0.0	2.2	0.0	.7	5.1	14.7
>9000	.7	2.2	1.5	4.4	0.0	10.3	19.1
Total	12.5	7.4	7.4	17.6	12.5	42.6	100.0

Source: Field Study, 2017-2018

Figure 7.12 and table 7.10 indicating a variation of nature of remittances according to their place of destination. The above histogram shows that the other state's remittances, like Karnataka, Tamilnadu, Kerala, Rajasthan, Arunachal Pradesh, etc., were higher than the remittances from within the state. Remittances from the other state to the district were around up to rupees 20,000 per month, while it was only within rupees 10,000 per month in

rural areas within the district (figure 7.12). From the Chi-test χ^2 (20, N=272) = 147.234, p <.001 and H$_o$ rejected, indicating that the monthly remittances of migrants are not equal according to their destination.

Table 7.11: Main Purpose of Remittance from the Rural Out-Migrants

Purpose	Frequency	Percent	Cumulative Percent
Food consumption	152	55.9	55.9
House renovation	56	20.6	76.5
Agricultural improvement	10	3.7	80.1
Pay of debt	36	13.2	93.4
Clothing	10	3.7	97.1
Others	8	2.9	100.0
Total	272	100.0	

Source: Field Study, 2017-2018

**Figure7.12: Main Purpose of Remittance from the Out-Migrants
In Koch Bihar District**
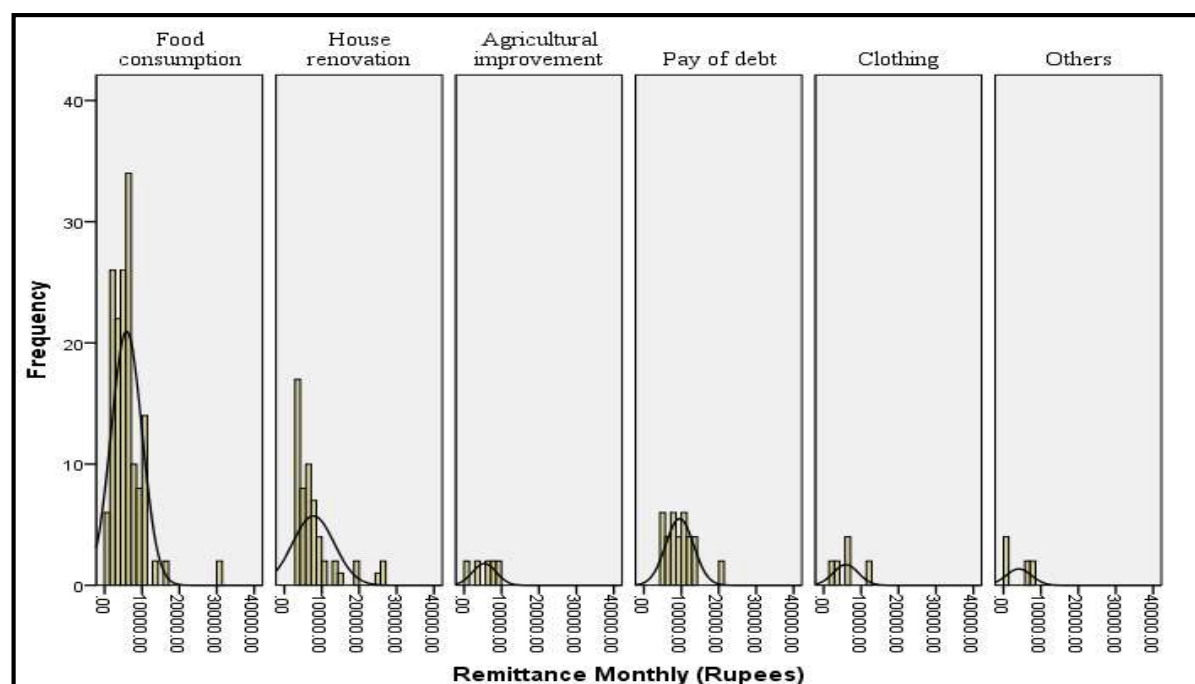
Above table 7.11 focuses that 55.9 percent of out-migrants are spent their remitted money for the purchase of food, while 20.6 percent is spent on their house renovation at the origin of the Koch Bihar district. Fifty percent of the migrated respondents have to take debt for their different purposes. In this case, 13.2 percent of respondents send their money to the origin for debt payment, while only 3.7 percent of them spent their money on agricultural development in the district. From the Chi-test χ^2 (5, N=272) = 341.235, p <.001 and H$_o$

rejected, which indicating that the migrants are not equal concerning their primary purpose of remittances.

7.2.1.6. Impact on Working Skill

The survey focuses that out-migration affects the skill of the migrants. The 'skill' is defined as the occupational attainment of skill, and there is no single need methodology for skill needs analysis (according to the International Labour Organisation). Most people are dependent on agriculture activities and engaged in informal activities in Koch Bihar district and have low skill working-age peoples emigrated from in rural areas. The results show that 59.6 percent of out-migrants are unskilled, while only 13.2 percent are skilled before out-migration from Koch Bihar district (Table 7.12).

Figure 7.13: Type of Skill Before and After Out-Migration of the Out-Migrants, Koch Bihar District
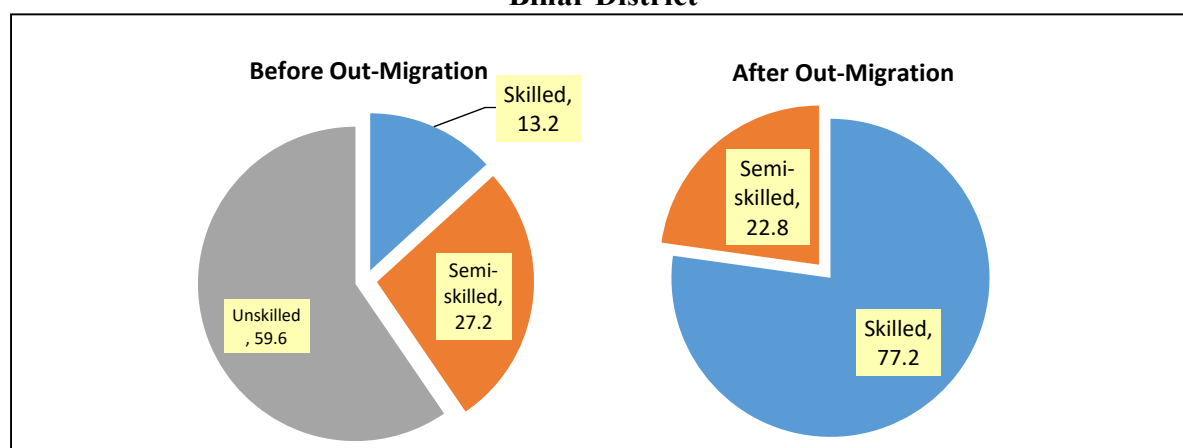
After out-migration, 77.2 percent of out-migrants changed into skilled labour, and the remaining 22.8 percent are changed into semi-skilled labour. From the Chi-test, χ^2 (2, N=272) = 92.147, p <.001 and χ^2 (1, N=272) = 80.529, p <.001 of before and after out-migration, the hypothesis H_o rejected which indicating that the migrants are not equal concerning their skill of work.

Table 7.12: Type of Skill Before and After Out-Migration of the Out-Migrants

Time	Skill	Frequency	Percent	Cumulative Percent
Before Out-Migration	Skilled	36	13.2	13.2
	Semi-skilled	74	27.2	40.4
	Unskilled	162	59.6	100.0
After Out-Migration	Total	272	100.0	
	Skilled	210	77.2	77.2
	Semi-skilled	62	22.8	100.0
	Total	272	100.0	

Source: Field Study, 2017-2018

7.2.2. Socio-Demographic Consequences:

Rural out-migration helps rural people for improve their social lives in culture, language and customs, which improvetheir quality of life. According to Zachariah et al. (2000), it has direct and indirect consequences on the demography of the population at origin and the destinations. The demographic consequences of rural out-migration change the demographic structure, which is identified by the rate of out-migration from the origin to the destination over different times. It proved that it also affects the inter-regional population, which identified the demographic potential to generate migration (Plane, 1992).

7.2.2.1. Impacts on Cultural Diffusion

Out-migration "results in intermixing of diverse cultures and leads to the evolution of composite culture, which breaks the narrow thoughts and widens the people's mental horizon" (Bala, 2017).Out-migration may have a significant effect on cultures and societies. It also affects both origin and destination where the skills of the migrants, and the lengths of time involved.

Table 7.13: Use of Dresses at Before and After Rural Out-Migration

Time of Out-Migration	Use of Dresses	Frequency	Percent	Cumulative Percent
Before	Traditional	188	69.1	69.1
	Modern	84	30.9	100.0
After	Traditional	82	30.1	30.1
	Modern	190	69.9	100.0
	Total	272	100.0	

Source: Field Study, 2017-2018

Figure 7.14: Percentage Distribution of Migrants for the Use of Dresses at Before and After Out-Migration, Koch Bihar District
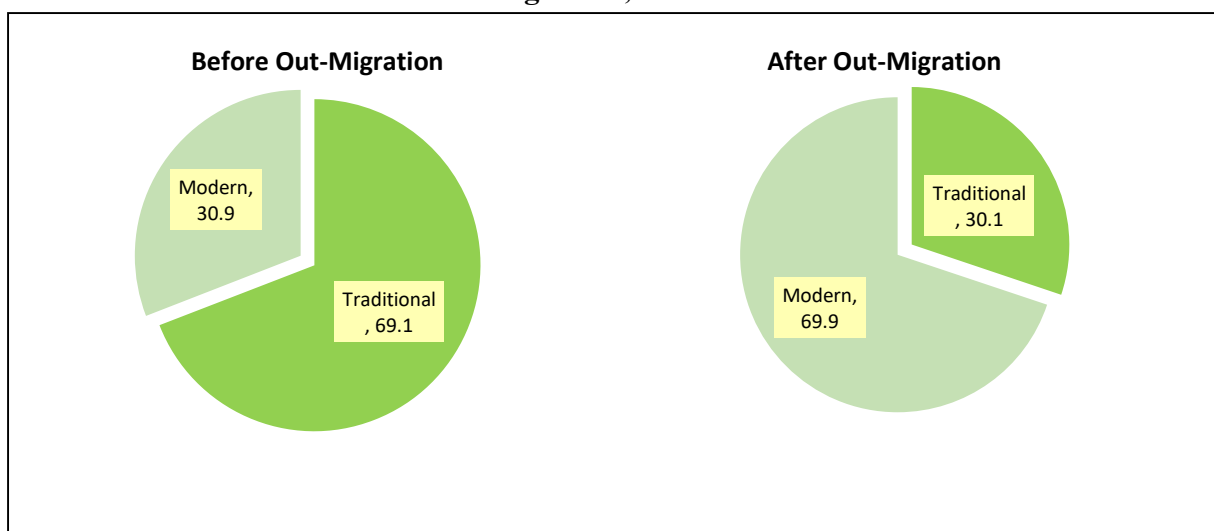
According to Richerson and Boyd (2008), migration is an "engine for social change" where "the movement of people into societies that offer a better way of life is a more powerful driver of cultural evolution than conflict and conquest."There are positive changes that have been observed in the society for the cultural relationships over time due to out-migration (Lanati and Venturini, 2018; Romaniszyn, 2004). Due to the out-migration from the rural area, the cultural diffusions have been observed in their dresses, languages, food behaviour, hair-style, etc., which will differ from the non-migrants in the study area (Nan, 2011). The above table 7.13 presents that 69.1 percent of the out-migrant was used traditional dresses[1] before out-migration, but it has been changed into 30.1 percent after out-migration and relative increase the use of modern[2] dresses among the migrant peoples (figure 7.15).

Table 7.14: Percentage Distribution of the Languages Known Before and After Out-Migration

Out-Migration	Languages Known	Frequency	Percent	Cumulative Percent
Before Out-Migration	Bengali	216	79.4	80.0
	Bengali & Hindi	56	20.6	100
	Total	272	100.0	
After Out-Migration	Bengali	100	36.8	36.8
	Bengali & Hindi	146	53.7	90.4
	Bengali, Hindi & English	20	7.4	97.8
	Bengali, Hindi, English & Nepali	6	2.2	100
	Total	272	100	

Source: Field Study, 2017-2018

Figure 7.15: Percentage Distribution of the Languages Known Before and After Out-Migration, Koch Bihar District
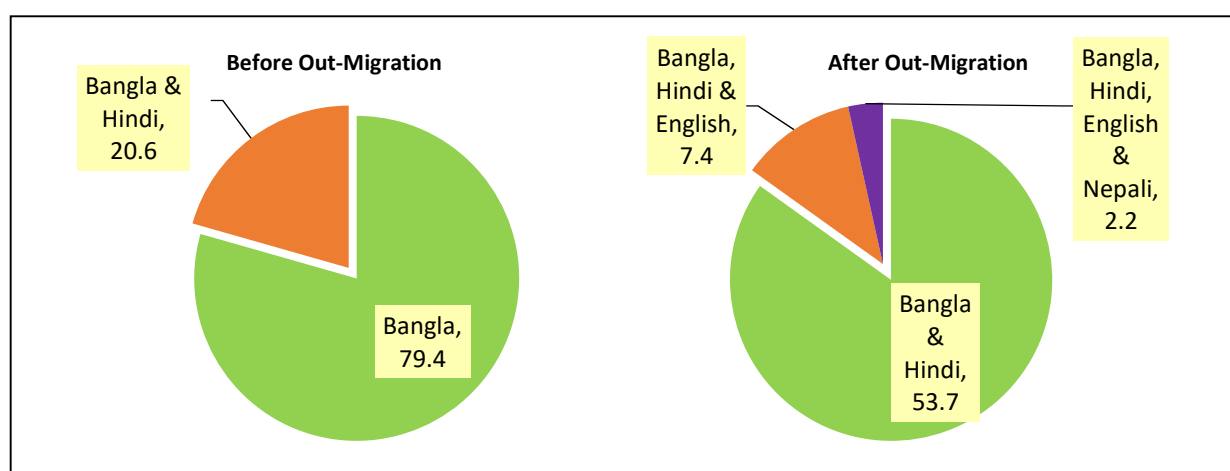
[1]The traditional dresses for men are "*Angsha* and *Jama* or inners, *kurta, lungi* while for women are *bukuni-patani; Agran; Angsha; Chadar* a piece of cloth tied around the chest that extends up to the knee" (source:Wikipedia).
[2] Western wear generally known as modern dress.

Several studies show that language is one of the critical contact barriers to the out-migrants in their destination (Piller, 2016; Heugh, 2017; Pot et al. 2018 and Jaeger et al. 2019), and overcoming this barrier is a necessary consequence of out-migration which bringing the economic benefit as well as social benefits (Wang et al. 2018). The study found that the official language in the district is Bengali, and the additional official language is English, whereas about 80 percent of the peoples using the Bengali language as communication. The district majority (50.01 %) population belongs to Scheduled Caste (SC) population, whereas a large number of the population using *Rajbanshi*[3] language like Bengali (Census, 2011). The above table 7.14 and figure 7.16, indicating that 79.4 percent of the migrated respondents known only the Bengali language before out-migration while it has to changed 53.7 percent for both the Bengali and Hindi language after out-migration. Besides Hindi, they have to learn English, Nepali languages.

7.2.2.2. Decision Making and Responsibilities Adopted by Rural Women

The effect of male out-migration from the origin on the females has positive and negatives impacts. The out-migration has increased the household income at the village and also increased their social status. It proved that the work burden has also been increased among the women in the village (Grawert, 1992). Moreover, at the same time, women's decision-making on household expenses and purchases at the village indicates women's empowerment (Jetley, 1987; Singh, 2018). Women empowerment reveals the significant concerns for decision-makers in the developing country, which is essential for society's overall development (Bose et al. 2017; Maity et al. 2018). McEvoy (2008) suggested that male out-migration has become an important livelihood strategy that significantly impacts women's lives. The absence of males at their origin changes role and responsibilities (Maharjan et al. 2012; Kakati, 2014; Fakir and Abedin, 2020) of women, not the exception to the Koch Bihar district. It affectsdecision-making, household welfare decision, agriculture decision, food preparation, a financial decision, child care, etc. (Pedraza, 1991; Das, 2019). The study reveals that out of 68.3 percent of total out-migrant respondents, 60.3 percent are male, and the remaining 8.0 percent are female respondents. So, it has been clear that the district out-migration is generally dominated by the male labour out-migration (Barman and Roy, 2019). The following table 7.15 reveals that 22.1 percent of women perform their duties as the head of the migrant families, while 58.8 percent are migrants parents. Out of

[3]The majority of scheduled caste peoplereveals from class of the *Rajbanshi* community and they demand the Bengali intellectual that *Rajbanshi* language is a dialect of Bengali language and claimed it is a standard independent language like Bengali.

all, 11.0 percent of them are migrants siblings who have to take their duties a family heads in Koch Bihar district.

Table 7.15: Decision Makers of the Family During the Absence of the Migrants

Sl. No.	Guardian	Frequency	Valid Percent	Cumulative Percent
1	Migrants parent	160	58.8	58.8
2	Wife of migrants	60	22.1	80.9
3	Migrants Siblings	30	11.0	91.9
4	Others	22	8.1	100
	Total	272	100	

Source: Field Survey, 2017-2018

Figure 7.16: Decision Makers of the Family During the Absence of Migrants
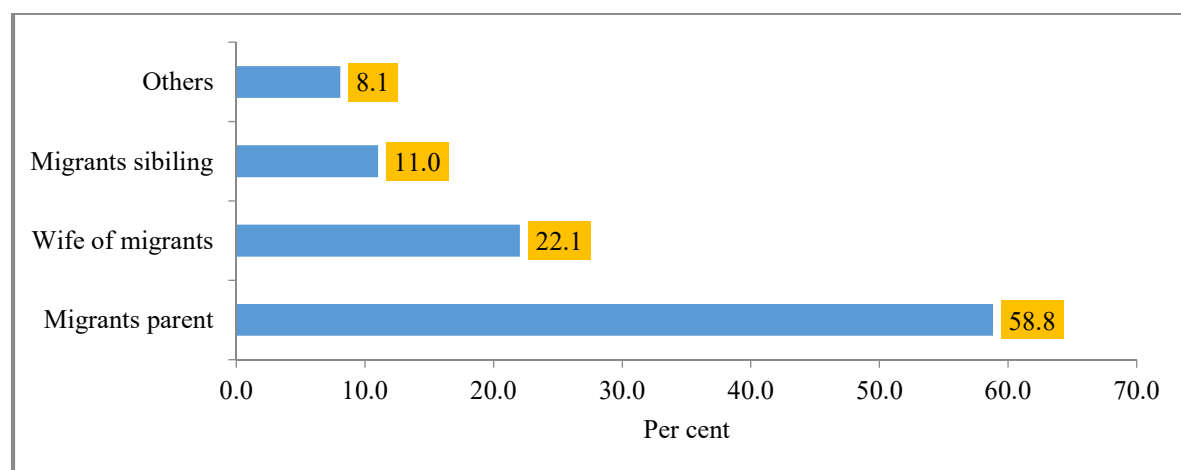
7.2.2.3. Impact on Children

Rural out-migration has a significant impact on children's lives in both the "positive and negative" experience. It also affects children's "academic performance, children, social behaviour, and emotional well-being" (Gomez, 2015). There are some negative impacts of out-migration on educational achievement when they have performed their family migration (Chen et al. 2014) and sometimes their parental absence (Battistell and Conaco, 1998). Roy et al. (2015), in their case of India, the impact of out-migration of parents on the ages of children between 6 to 14 years and they are dropped out from schooling, and they found that the impact on the attendance in the school was mostly positive; they have poor performance in studies, discipline, etc. Table 7.16 shows an average rate of out-migration per family in the district is 1.34 persons, while the male out-migration average per family is 1.14 and 0.94 persons for females. So, this indicating there huge gender differences for out-migration in Koch Bihar district.

Table 7.16: Distribution ofNumber of Rural Out- Migrants from the Migrant Households

Gender of Migrated Persons	Sum	Mean Statistic	Percent
Male	309	1.14	84.658
Female	56	.90	15.342
Total Migrants family, N=272	365	1.34	100.000

Source: Field Survey, 2017-2018

Table 7.17: Impact of Out-Migration on Children Schooling from Migrant Households

Child Dropped out from Schooling	Migrated With Family (%)		Total (%)
	Yes	No	
Yes	2.9	0.0	2.9
No	.7	96.3	97.1
Total	3.7	96.3	100.0

Source: Field Survey, 2017-2018

The above table 7.17 reveals that the out-migration from the district negatively impacted children's schooling. It shows that overall, 3.7 percent of children are migrated with their families, and out of the 3.7 percent are dropped out from their schooling while only 0.7 percent did not drop out from schooling. So, the results clarify that parental migration with the child is the risk factor for school dropout among the children (Giannelli, 2010; Pufall et al. 2015). The result of the Chi-test from the above table 7.16,$\chi^2(1, N=272) =$ 215.952, p <.001 and H$_o$ rejected, which indicating that the child out-migration have a significant impact on school education of Koch Bihar district. As a result, the children enter into the employers and contractors' labour work and by their parents or guardians (Iversen, 2002; Ananga, 2013; Deep, 2017).

7.2.3. Other Consequences

As per discussion earlier, out-migration has created employment opportunities to the destination, increasing economic sustainability among out-migrants. They have also increased the consumption of expenditure. The out-migration changed the working skill of the migrants and relatively increased their monthly income. The massive in-migration to the urban areas increases the competition of jobs among the migrants, and sometimes migrants are exploited. Several studies (Murty, 1977; Ghosh & Shah, 2004; Jahan, 2012; Awumbila et al.2014)focused that migration increased the slum in urban areas where peoples face many problems unhygienic condition, lack of drinking water, sanitisation, and so on.

7.2.3.1. Impact on the Working Place

There is a significant impact of migration at the destination. The in-migration of any place generally depends on the quality of working and working places (Findlay and Rogerson,

1993; Fotheringham et al. 2000; Whisler et al. 2008) out-migration force peoples do out-migrate from their origin.

Table 7.18: Impact on Sanitation Facilities at Staying Places of the Out-Migrants

Sanitation Facility	Out-Migrants are Staying in (%)				Total (%)
	Owner's home	Rented house	Worksite	Other	
Excellent	0.0	2.2	2.2	0.0	4.4
Good	1.5	8.8	14.0	9.6	33.8
Fair	2.9	10.3	32.0	3.7	48.9
Poor	2.9	5.1	4.0	.7	12.9
Total	7.4	26.5	52.2	14.0	100.0

Source: Field Study, 2017-2018.

The above table 7.18 indicates that out of all migrants, 52.2 percent of them stay at the workplace while only 26.5 percent of them are staying rented house and 7.4 percent are the owner's home at the destination. Out of all, 32 percent answered they haveadequate sanitation facility at the worksite, while 4 percent said sanitation facility at the working site was lacking. Only 2.2 percent of them had excellent sanitation facilities at the worksite. Similarly, at the rented house having the same condition, most of them were told they have a fair sanitation facility. The calculation from Chi-test from the above table 7.18,χ^2(9, N=272) = 50.427, p <.001 and H_o rejected, which indicating that there was significant variation among the sanitation facility at the destination.

Table 7.19: Impact on Drinking Water Facilities at Staying Places of the Out-Migrants

Drinking water facility	Out-Migrants are staying in (%)				Total (%)
	Owner's home	Rented house	Worksite	Other	
Excellent	0.0	0.0	.7	0.0	.7
Good	0.0	2.9	10.3	6.6	19.9
Fair	.7	14.0	25.0	7.4	47.1
Poor	6.6	9.6	16.2	0.0	32.4
Total	7.4	26.5	52.2	14.0	100.0

Source: Field Study, 2017-2018.

Out-migration imparts the population growth at the destination (Pradhan, 2004), which has a significant impact on like drinking water facility and the human body needs safe and adequate drinking water (Confalonieri et al. 2007). Above table 7.19 indicating overall, 47.1 percent of respondents told the fair facility of drinking water at the destination's staying place. Out of all, only 0.7 percent of them stay at the working site having excellent drinking water facilities while out of total 32.4 percent 16.2 percent at the worksite, 9.6 percent at the

rented house and 6.6 percent at the owner's home having poor drinking water condition at the destination. Chi-Square test shows χ^2(9, N=272) = 62.908, p <.001 and H$_o$ rejected, indicating significant variation among the drinking water facility at the destination.

7.3. Conclusion:

The out-migration has affected the district's total population every decade, which has signed on the population growth. The out-migration trends from Koch Bihar district include the male-dominant, which directly impactsthe district's sex-ratio. Due to overrate of male out-migration, the district has to reduce the working-age population and relatively increased the dependent elderly and children in Koch Bihar district. The increase of the dependent population not only affects demography but also affects the economy in the district. In this case, the out-migration has a significant impact on the women where maximum numbers of married men are migrated from the district. As per the analysis, according to Zachariah et al. (2000), the consequences of out-migration affect both "positive and negatively on fertility where migration affects the birth rate at the origin for increase and decrease of birth rate." In the current scenario, the vastnumbers of males are out-migrated to outside in the district and state it increases the postponement of marriages, this kind of behavioural changes increase the age of marriage and affect the fertility.

So, the study clears that out-migration affects only the employments of migrants to secure their earning also. The majority of the household has received remittances from the migrants to their origin at the household. The household expenditure at the origin, such as food, health, cloth, etc., depends on the destination's remittance income. The remittance income provides food security among the households in Koch Bihar district. Major findings are;

1. The study found there are different activities of migrants before out-migration in the district is agriculture (18.4%), casual labour (42.6%), household industry workers and business (2.9%), student (8.8%), others (9.6%), and 14.7 percent were unemployed. The result has been changed after out-migration, we found that the activity of agriculture (8.8%), construction labour (41.2%), factory labour (17.6%), labour at brick kilns (8.8%), household industry workers (2.9%), government service (3.7%), business (8.1%), Thikadar (5.9%) and 2.9 percent in others activity.

2. Out-migration has also affected the number of working days before and after rural out-migration. The study found there were the majority of out-migrants (43.4%) were worked two days within a week before rural out-migration whereas only 3.5

percent of out-migrants were worked at least five days in a week before out-migration while after out-migration, the majority of migrants (52.9%) are working all the days in a week.

3. Before out-migration majority (40.4%) out-migrants were collected their weekly wages, whereas it was 26.5 percent of daily wage collection after work. After migration, the status was changed, which shows 56.6 percent were collected monthly-wise after out-migration.

4. The Field Study, 2017-2018 found that most migrants received their wages before migration through cash (86%), whereas it was only 10.3 percent only through the bank account. The amount has been changed after out-migration; the result shows that 44.9 percent of respondents received their wages through the bank account

5. 53.7 percent of the respondent's wages within rupees 3001 to 5000, whereas it was only more than rupees 9000 for 6.6 percent of respondents which has been changed after migration, and shows 67.6 percent of them earned wages more than rupees 9000 per month.

6. The Field Study, 2017-2018 in the district revealed that 42.6 percent of the out-migrants monthly expenditure was rupees 3000.00 to 5000.00 per month before out-migration while it has been increased to 46.3 percent for rupees 5000.00 to 7000.00 per month after out-migration

7. Study shows that 53.7 percent of the migrant respondents are sending money every month to their home while 27.2 percent send money quarterly and 6.6 percent yearly. It also clears that 87.5 percent of the total sample migrants' family members are the recipients of such remittance.

8. It is also clear that most out-migrants (56.5%) send money through their bank account while 14.7 percent of them send it by others bank account. 19.1 percent of the out-migrants send their money to the family at the origin through fellow migrant workers.

9. The other state's remittances, like Karnataka, Tamilnadu, Kerala, Rajasthan, Arunachal Pradesh, etc., were higher than the remittances from within the state. Remittances from the other state to the district were around up to rupees 20,000 per month, while it was only within rupees 10,000 per month in rural areas within the district.

10. 55.9 percent out-migrants are spent their remitted money for the purchase of food, while 20.6 percent is spent on their house renovation at the origin of Koch Bihar district. Fifty percent of the migrated respondents have to take debt for their different purposes. In this case, 13.2 percent of respondents send their money to the origin for the debt payment, while only 3.7 percent of them spent their money on agricultural development in the district.

11. The results show that 59.6 percent of out-migrants are unskilled while only 13.2 percent are skilled before out-migration, which changes to 77.2 percent of out-migrants into skilled labour and the remaining 22.8 percent cent are changed into semi-skilled labour.

12. 69.1 percent of the out-migrant was used traditional dresses before out-migration, but it has been changed into 30.1 percent after out-migration and relative increase the use of modern dresses among the migrant peoples.

13. 79.4 percent of the migrated respondents known only Bengali language before out-migration while changing 53.7 percent for both the Bengali and Hindi language after out-migration. Besides Hindi, they have to learn English, Nepali languages.

14. 22.1 percent of women perform their duties as the head of the migrant families, while 58.8 percent are migrants parents. Out of all, 11.0 percent of them are migrants siblings who have to take their duties a family heads in Koch Bihar district.

15. The study foundthat parental migration with the child is the risk factor for school dropout among the children.

16. Out of all migrants, 52.2 percent stay at the workplace, while only 26.5 percent of them stay in rented houses, and 7.4 percent are the owner's home at the destination. Out of all, 32 percent answered they have adequate sanitation facility at the worksite, while 4 percent said sanitation facility at the working site was lacking. Only 2.2 percent of them had excellent sanitation facilities at the worksite. Similarly, at the rented house having the same condition, most of them were told they have a fair sanitation facility.

17. The study reveals that 47.1 percent of respondents told the fair facility of drinking water at the destination's staying place. Out of all, only 0.7 percent of them stay at the working site told excellent drinking water facility while out of total 32.4 percent 16.2 percent at the worksite, 9.6 percent at the rented house and 6.6 percent at owner's home having poor drinking water condition at the destination.

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CHAPTER-8
ASSESSMENT OF MGNREGS ON RURAL OUT-MIGRATION IN THE DISTRICT

CHAPTER-8

ASSESSMENT OF MGNREGS ON RURAL OUT-MIGRATION IN THE DISTRICT

8.1. Introduction:

The government of India introduced MGNREGA in 2006 for introducing the livelihood guarantee in rural India bygiving employment guarantees. They are providing minimum wages, mainly for unskilled labour. The Mahatma Gandhi Rural Employment Guarantee Act (MGNREGA), through September 7, 2005, was implemented in rural districts in India in April 2008. It aims to produce 100 days of work for the unskilled adult member of every family. This scheme provides direct income to the unskilled labour into rural areas of the country.

However, the main focus of this scheme is to improving"natural resource management through works that address the cause of chronic poverty like drought, deforestation and soil erosion" and it stimulates sustainable rural development (Benni and Nagaraja; Purohit, 2012). The works under MGNREGA works have been increasing day by day.This is important that the female participation is also increasing. In this study, the important thing is that women are giving wage rates equal to the men, which shows the women are empowered economically and socially. This Act can be considered a small step in enabling persons and households to have access to income that enhances well-being (Puthenkalam and George, 2012). It has an essentialpossible to change the geography of poverty. It is called the "model of governance reform anchored on the principles of transparency and grass-root democracy" (Puthenkalam and George, 2012).

Koch Bihar district is characterised by no industry district and the base of the economy mainly agrarian as the main reason for labour out-migration. The landless poor people, mostly immigrants from Bangladesh, and economically backward, constitute asignificant portion of out-migrants. The labour out-migration occurred in two ways, viz. short-term migration and long-term migration. These migrant labourers visited brick kilns, stone quarrying, plantations, construction, and rice mills, etc., for their livelihood. So, MGNREGS aims to establish a 'social floor' for the poor and weaker section, basically for SC/ST/women. This programme was initiated with multiple objectives other than providing employment, such as rural out-migration, building rural assets and infrastructure, women empowerment, and weaker groups.

8.2. Salient Features of the Act:

This Guarantee Scheme (NREGS) refers hundred days of work to the unemployed families in rural areas; this programme revealed the following characteristics;

i. The household should be belongs from rural area and be an unskilled manual worker.

ii. General details ofrespondents forregistration in the scheme are writing application to the local Gram Panchayat.

iii. All the members of the registered households should provide work within 5 kilometres radius of the village.

iv. Wages are paid as per the state-wise (Gangadhara and Aswath, 2016) as per "Minimum Wages Act 1948". It will be paid as per piece rate, as per the schedule of rates (SoRs). Payment will be done weekly and not beyond a fortnight in any case. Payment of wages is made through the individual/joint bank/post office beneficiary accounts.

v. Plans and decisions of work made by the Gram Panchayat under this Scheme.

vi. Contractors and machineries are not permit in this scheme.

vii. Transparency and accountability in the programme ensure through social audit and grievance-redressal mechanisms.

8.3. MGNREGS- Missing Target?

The chief objective of the "MGNREGA is to provide a steady source of income and livelihood security for the poor, the vulnerable, and marginalised, which have a significant impact on poverty and inclusive growth" (Ranjan, 2016). MGNREEEGSwas implemented in around 1, 00,000 villages across the country for the poor. Six hundred four districts under the scheme from April 2008, the government is expected to spend around Twenty thousand crores (200 billion) rupees annually on implementing the NREGA during 2008-2009 (Misra, 2011). Economic Survey (2010-11) stated that during 2009-2010, The budget of the scheme during 2010-2011 was Rs. 40,100 crores for about 4.5 crores households for improvement of "permanent asset creation and infrastructure building activities, reducing transaction costs, better monitoring, and extension to urban areas" (Pradhan and Golait, 2011). The study reveals that in the Financial Year 2011-2012, about five crore households (around 25 percent of rural households) provided 209 crore person-days of work. The MGNREGA provides around Rs.1,10,700 crores as worker wages from FY 2006 to FY 2011-2012, which

positively impacts household income, expenditure, livelihood security, beneficiary's health, and so on (Ranjan, 2016).

This employment guarantee scheme was considered essential for India for poverty reduction, prevention, reducing migration, and the poor's empowerment. This Act can also potentially use surplus labour for sustainable development and development for the economy. Anilkumar and Mulagund (2016), in their paper "Impact of Mahatma Gandhi National Rural Employment Guarantee Act on Rural-Urban Migration in Background Areas-A Micro Level Investigation in Yadgir District in Karnataka State," shows this scheme is lifeline of rural poor of the Karnataka. The study reveals direct and indirect impacts on employment generation and poverty reduction. Singh (2013) found that the MGNREGS programme helps the rural poor and weaker section of the society with employment, reducing the temporary out-migration.

In contrast, MGNREGS can reduce temporary migration but is ineffective in the long period when several factors would change together. In another study by Prasad (2016), this scheme has played an essential role in reducing distress migration. However, it must be noted that although it has reduced distress but has not been able to eliminate the process of distress migration. The underlying reason for this is that the programme is not being implemented throughout the year,somewhata limited number of employment days under the MGNREGS programme. Shah et al. (2011) focused that this scheme is a critical factor in developing the vast rural population, empowering rural communities. This programme also helps to develop income level and food security by guaranteeing 100 days of work. According to the report by BR Ambedkar Institute of Panchayats and Rural Development, Kalyani Nadia (2017) on "Impact of MGNREGA on Tribal Population: A Case Study of Jungle Mahal of West Bengal," the programme has a good potential for improving the rural income and livelihood security of the rural people. They also provide the scheme did not provide the employment which would have expected. The study focuses on tribal are provided with an average of less than 50 days of work per year and the payment status of wages, which was delayed due to the out-migration from Jungle Mahal, West Bengal. Another study by Pamecha and Sharma (2015) revealed that the one primary objective of MGNREGS is to reduce unskilled labour migration from rural areas by providing 100 days wage guarantee. They have noticed the impact among short-duration or temporary migrants,

where the female members preferred the local migration. Finally, they conclude that the scheme certainly reduces the distress migration from rural areas.

8.4. Overview of MGNREGS Works in Koch Bihar District:

8.4.1. Working Household and Job Card Status

Table 8.1shows the working details of the percentage of the household worked and percentage of job card status of the MGNREGS in Koch Bihar district block-wise. Average 47.83 percent of the household was worked under the MGNREGS in the financial year of 2017 to 2018. The highest percentage of households allotted worked identified in Haldibari (78.76%) followed by Sitalkuchi (56.57%), Mathabhanga-II (54.61%),Tufanganj-II (51.61%), and Mekhliganj (51.61%). The minimum percentage of households worked to the total block household identified in Mathabhanga-I (35.26%) followed by Tufanganj-I (41.31%), Dinhata-I (42.56%),Dinhata-II (43.69%),and Sitai (44.42%).

Table 8.1: Percentage of Household Worked and Job Card Status

Block Name	Percentage of Household Worked to total block household	Percentage of Job Card	
		Issued	Active
Koch Bihar-I	48.38	98.58	87.51
Koch Bihar-II	46.33	99.21	88.22
Tufanganj-I	41.31	98.95	77.87
Tufanganj-II	51.61	98.94	85.18
Dinhata-I	42.56	99.29	85.12
Dinhata-II	43.69	98.55	88.74
Sitai	44.42	98.03	86.55
Haldibari	78.76	99.81	96.26
Mekhliganj	51.61	99.59	93.95
Mathabhanga-I	35.26	99.3	82.33
Matha Bhanga-II	54.61	99.97	89.95
Sitalkuchi	56.57	99.58	85.39
Total	47.83	99.13	86.68

Source: www.nrega.nic.in (FY 2017-18)

Out of these Haldibari blocks having 96.26 percent of active job cards of the households, followed by Mekhliganj (93.95%), Mathabhanga-II (89.95%), Dinhata-II (88.74%), and so on. Tufanganj-I showsa 77.87 percentage of active job cards in 2017-2018 (Map 8.1).

8.4.2.Social Group-Wise Working Household

Out of all social groups, 56.07 percent of households belong to Scheduled caste (SC), and the remaining 0.84 percent from Scheduled Tribe (ST), and 43.09 percent from other caste categories. Majority percentage of SC households taken this scheme for the Mathabhanga-I block (73.58%),followed by Mekhliganj (71.2%), Sitai (70.38%), and so on. In the financial year 2017-18, the very lowest percentage of SC households engaged for the community development block Dinhata-I (42.95%),whereas the remaining 55.63 percent of households belong from other caste households in the same block. Most ST households worked from Mekhliganj (2.98%), whereas it was lowest in the Sitalkuchi block (0.02%). The majority percentage of households worked from the non-SC/ST category was found in CB block Dinhata-I (55.63%) (table 8.2 and Map 8.2).
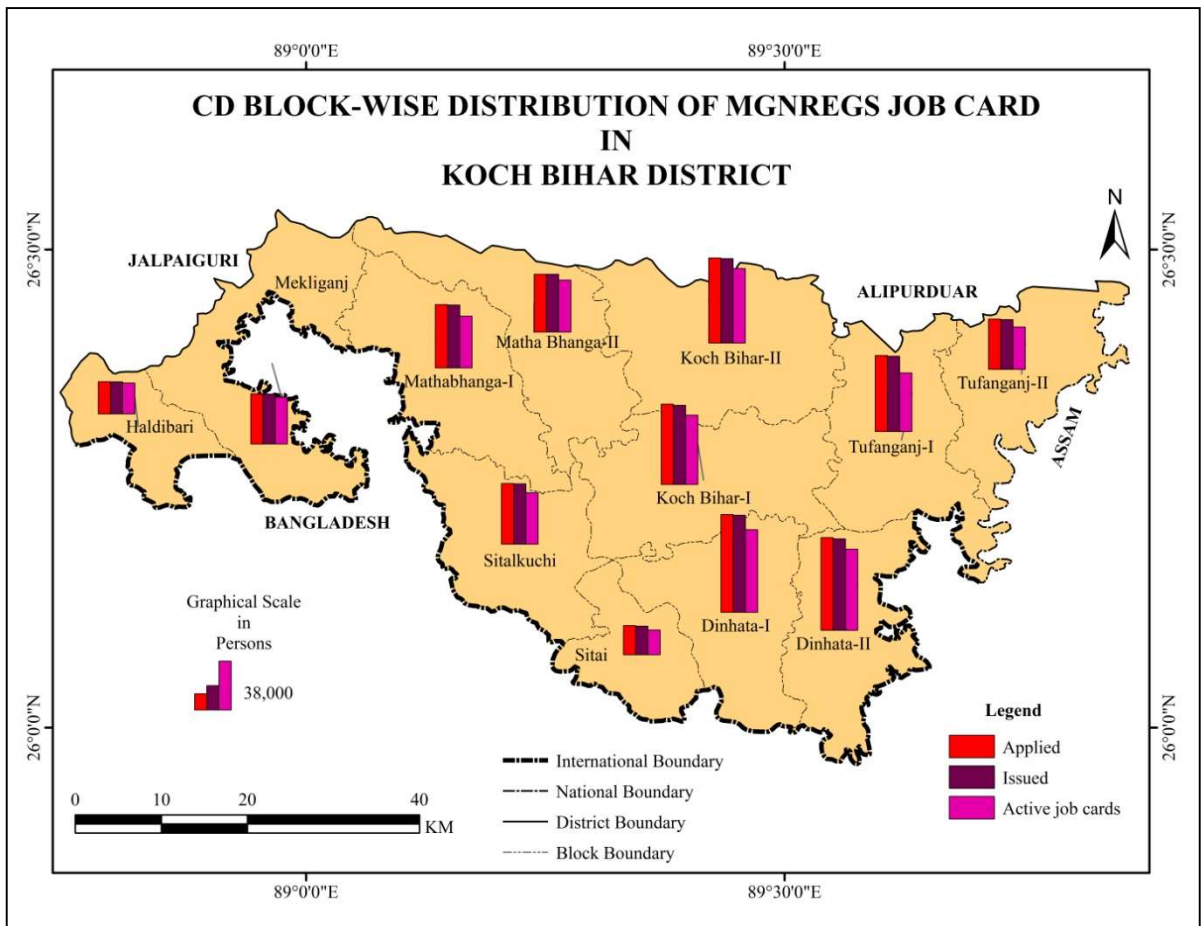
Map 8.1: CD Block-Wise Distribution of MGNREGS Job Card in Koch Bihar District

Table 8.2: Percentage of Household Work under MGNREGS

Block	Percentage of households worked (non-SC/ST)	Percentage of SC households worked	Percentage of ST households worked	Percentage of households worked
Koch Bihar-I	53.71	45.92	0.37	100
Koch Bihar-II	43.57	55.39	1.03	100
Tufanganj-I	45.05	54.82	0.13	100
Tufanganj-II	37.57	60.22	2.21	100
Dinhata-I	55.63	42.95	1.42	100
Dinhata-II	54.34	45.07	0.6	100
Sitai	29.48	70.38	0.14	100
Haldibari	39.18	60.52	0.3	100
Mekliganj	25.82	71.2	2.98	100
Mathabhanga-I	26.29	73.58	0.13	100
Matha Bhanga-II	42.41	56.84	0.75	100
Sitalkuchi	39.97	60.01	0.02	100
Total	43.09	56.07	0.84	100

Source: www.nrega.nic.in(FY 2017-18)

Table 8.3: Block-Wise Percentage of Registered Workers for MGNREGS

Block	Registered Workers (%)			
	SCs	STs	Others	Total (%)
Koch Bihar-I	45.17	0.28	54.55	100.00
Koch Bihar-II	57.46	1.06	41.48	100.00
Tufanganj-I	53.35	0.11	46.55	100.00
Tufanganj-II	59.85	2.05	38.10	100.00
Dinhata-I	41.39	1.17	57.44	100.00
Dinhata-II	43.73	0.64	55.62	100.00
Sitai	69.28	0.11	30.62	100.00
Haldibari	61.57	0.36	38.07	100.00
Mekliganj	74.49	2.85	22.66	100.00
Mathabhanga-I	74.99	0.12	24.89	100.00
Matha Bhanga-II	58.11	1.17	40.72	100.00
Sitalkuchi	58.55	0.01	41.44	100.00
Total	55.28	0.81	43.90	100.00

Source: www.nrega.nic.in (FY 2017-18)
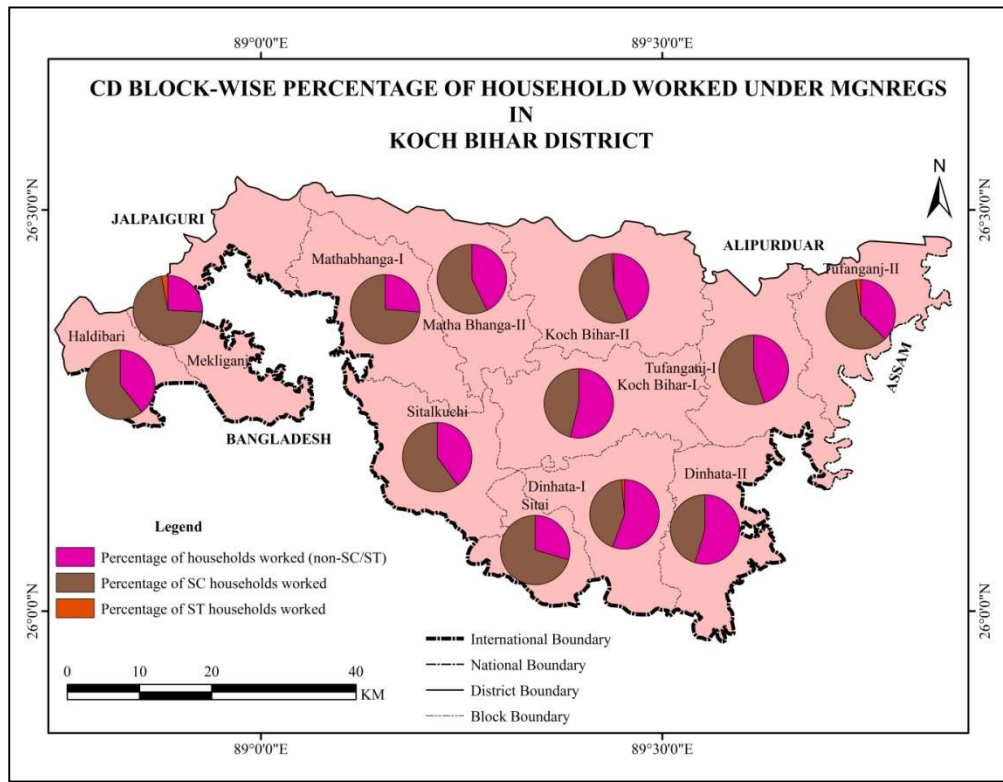
Map 8.2: CD Block-Wise Percentage of Household Worked Under MGNREGS in Koch Bihar District
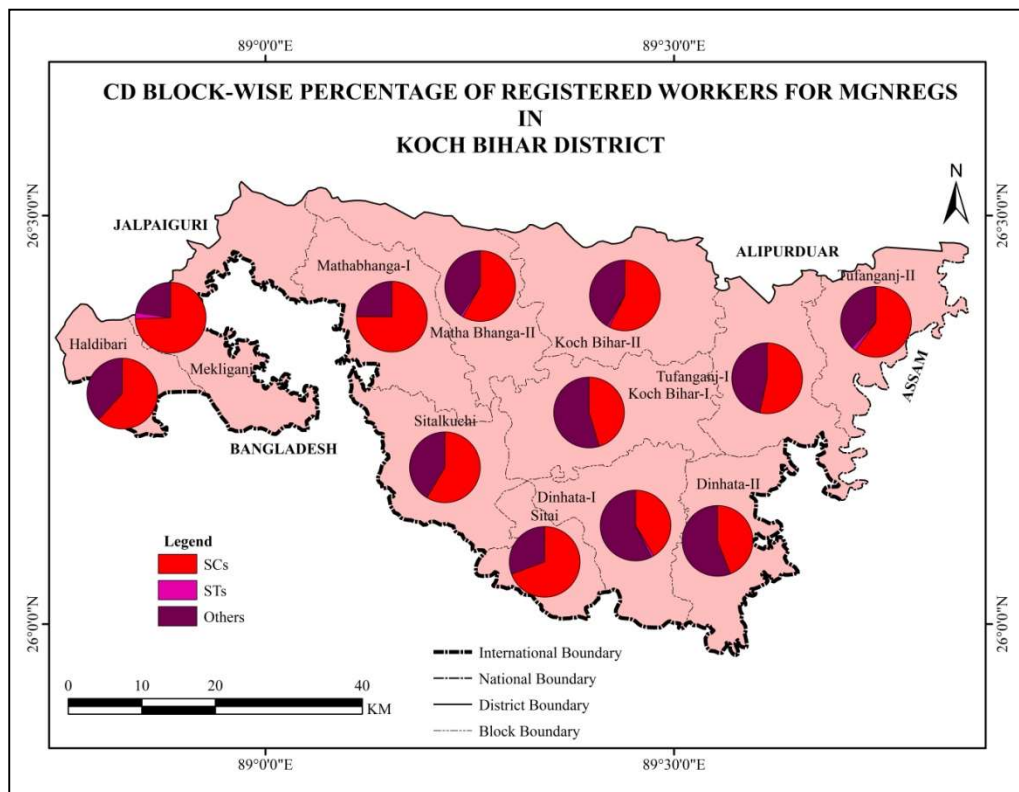
Map 8.3: CD Block-Wise Percentage of Registered Worked Under MGNREGS in Koch Bihar District

Table 8.3 focuses overall 55.28 percentage of the SC workers, and 43.90 percent of non-SC/ST workers, and 0.81 percent of ST workers have been registered under MGNREGS work in the financial year 2017-2018 in Koch Bihar district. CD block Mathabhanga-I hasa percentage (74.99%) of SC worker registration, whereas it was lowest in Dinhata-I (41.39%). Similarly, the Mekhliganj block having a higher percentage of ST worker registration (2.85%) under MGNREGS. Alternatively, the Dinhata-I block has been registered a higher percentage of non-SC/ST category worker in this financial year. Map 8.3 gives an overview of the CD block-wise percentage of registered workers under Scheduled Caste, Scheduled Tribes, and non-SC/ST categories.

Table 8.4 highlights 54.79 percent of the SC workers was an inactive category, whereas 44.37 percent were non-SC/ST category of active workers in the district. The majority percentage of active SC workers was found in the Mathabhanga-I block (74.37%), and the least percentage of SC active workers found in Dinhata-II (41.03%). Similarly, the maximum percentage of active other caste workers was found in Dinhata-I (57.25%), and the minimum percentage was observed in Mekhliganj (25.24%). Maximum active ST workers were observed in Mekhliganj (3.07%) and lowest in Sitalkuchi block (0.01%).

Table 8.4: Block-Wise Percentage of Active Workers for MGNREGS

Block	Active Workers (%)			Total Workers
	SCs	STs	Others	
Koch Bihar-I	44.92	0.31	54.77	100
Koch Bihar-II	56.13	0.97	42.90	100
Tufanganj-I	53.76	0.09	46.14	100
Tufanganj-II	58.78	1.99	39.23	100
Dinhata-I	41.47	1.29	57.25	100
Dinhata-II	41.03	0.63	58.34	100
Sitai	69.09	0.12	30.79	100
Haldibari	60.00	0.27	39.73	100
Mekliganj	71.69	3.07	25.24	100
Mathabhanga-I	74.37	0.15	25.48	100
Matha Bhanga-II	56.76	0.99	42.26	100
Sitalkuchi	60.43	0.01	39.56	100
Total-District	54.79	0.84	44.37	100

Source: www.nrega.nic.in (FY 2017-18)
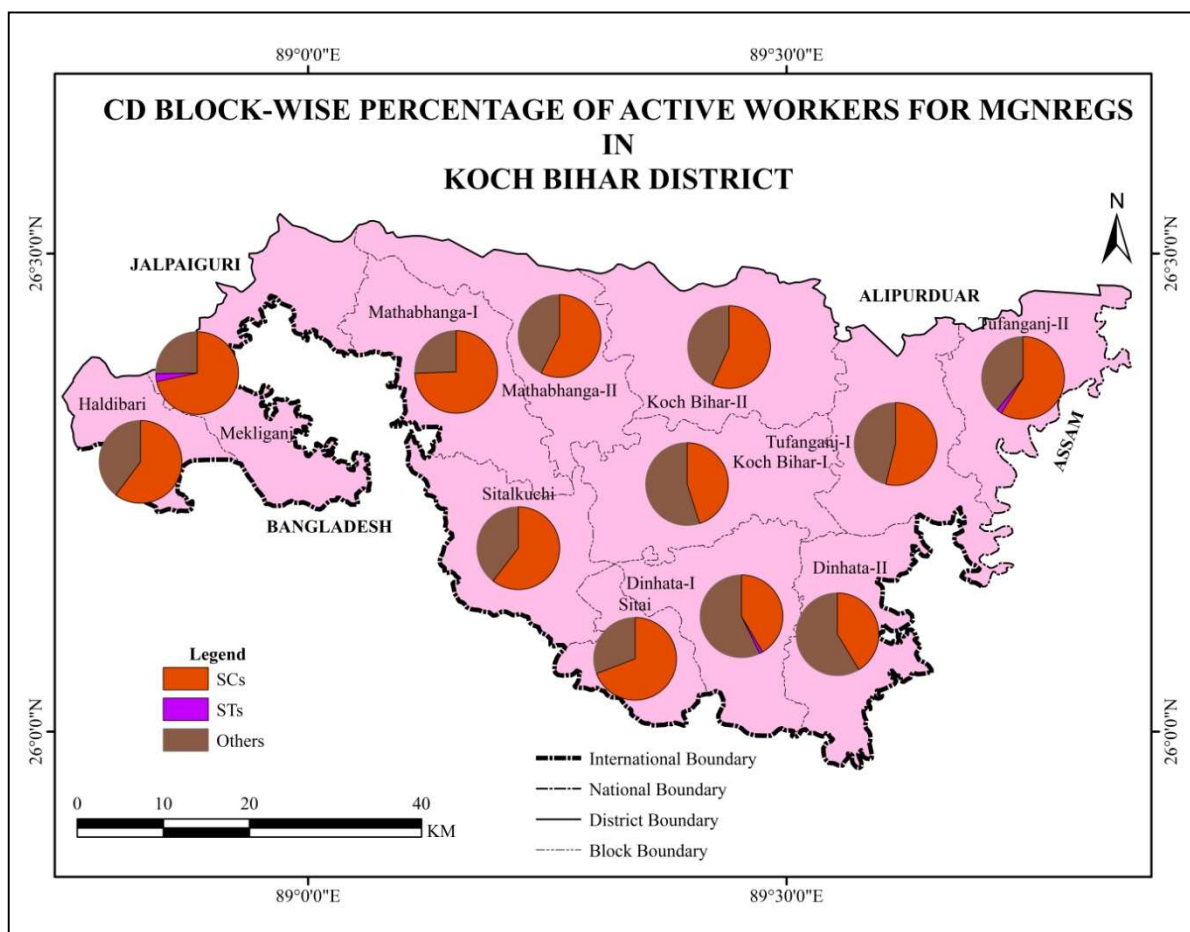
Map 8.4: CD Block-Wise Percentage of Active Workers for MGNREGS in Koch Bihar District

Map 8.4 highlights the percentage of the district of active workers block-wise. The pie diagrams show almost all the blocks having the majority percent of Scheduled Castes (SCs) workers where Scheduled Tribes (STs) are deficient. Mathabhanga-I is showing the highest percentage of active SC workers concentration.

The table8.5 indicating the person-days worked under the scheme. The study reveals that the district has16313011 person-days works under MGNREGS in the financial year 2017-2018. Out of all, 69, 56,860 person-days works have been done under non-SC/ST workers whereas it 92, 25,187 person-days for SC workers. The study shows majority numbers SC person days work was done in the Sitalkuchi block (1002985), and the minimum number was in Sitai (460134) block. The majority number of total person-days works under non-SC/ST was observed at Dinhata-I (863920). Similarly, the maximum number of person-days work observed at Mekhliganj block followed by Tufanganj-II and Dinhata-I block. Map 8.4 depicting the highest percentage of active SC workers is in the Mathabhanga-I block, yet most SC person days worked has been done at CD block Sitalkuchi.

Table 8.5: Block-Wise Person Days Work Under MGNREGS

Block	Total person-days worked (non-SC/ST)	Total person-days worked by SCs	Total person-days worked by STs	Total person-days
Koch Bihar-I	966185	844268	6788	1817241
Koch Bihar-II	758137	970363	18184	1746684
Tufanganj-I	598122	734428	1394	1333944
Tufanganj-II	490507	752758	25159	1268424
Dinhata-I	863920	664223	21897	1550040
Dinhata-II	691411	570605	7752	1269768
Sitai	181639	460134	1006	642779
Haldibari	496267	830103	4013	1330383
Mekliganj	241154	671210	33844	946208
Mathabhanga-I	284502	727304	1456	1013262
Matha Bhanga-II	745109	996806	9249	1751164
Sitalkuchi	639907	1002985	222	1643114
Total	6956860	9225187	130964	16313011

Source: www.nrega.nic.in (FY 2017-18)
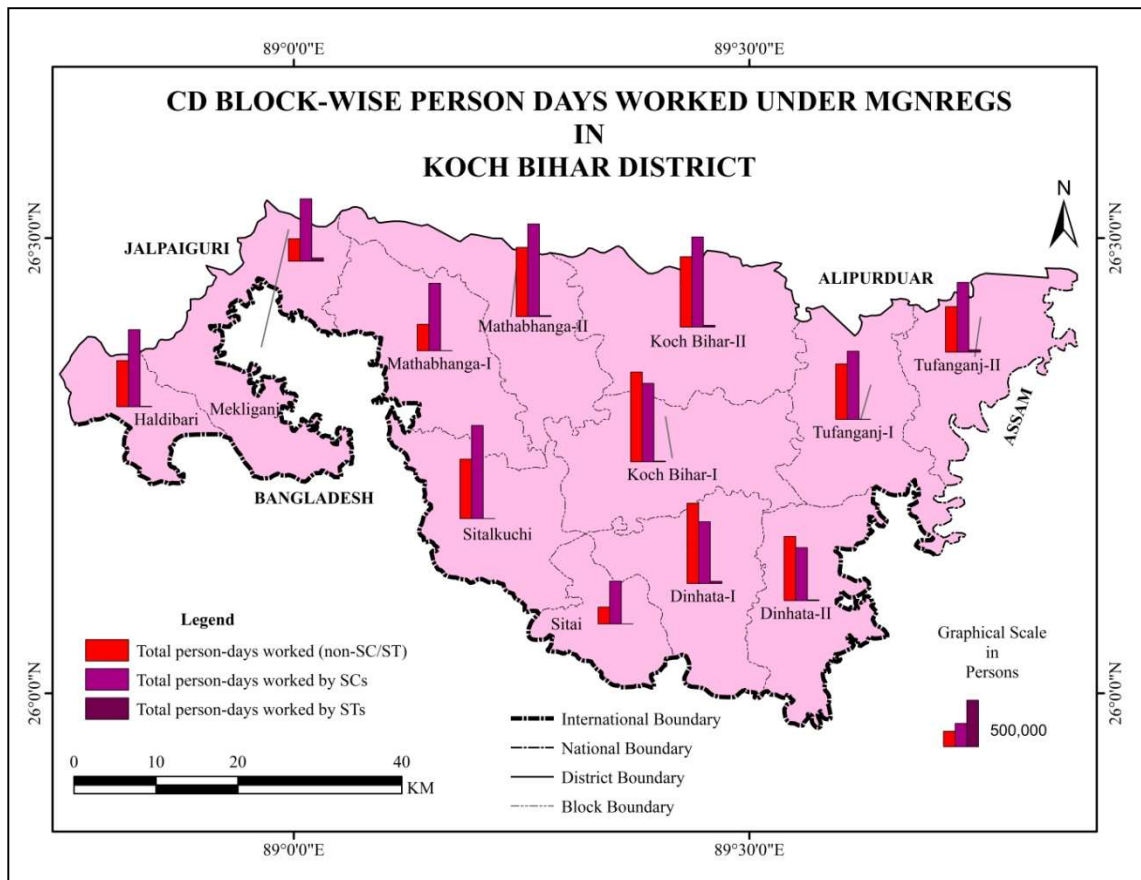
Map 8.5: CD Block-Wise Person Days Worker under MGNREGS in Koch Bihar District

Table 8.6: Block-Wise 100 Days Complete Work Status of MGNREGS

Block	Total households reached the 100-day limit (%)	Total SC households over the 100-day limit (%)	Total ST households over the 100-day limit (%)
Koch Bihar-I	1.36	0.64	0.01
Koch Bihar-II	2.3	1.3	0.04
Tufanganj-I	2.56	1.59	0
Tufanganj-II	7.68	4.48	0.2
Dinhata-I	7.91	3.25	0.07
Dinhata-II	1.47	0.87	0.02
Sitai	8.46	6.22	0.01
Haldibari	18.8	12.35	0.05
Mekliganj	2.79	1.69	0.31
Mathabhanga-I	12.4	8.78	0.03
Matha Bhanga-II	4.03	2.58	0
Sitalkuchi	23.22	14.62	0
Total	7.07	4.33	0.06

Source: www.nrega.nic.in (FY 2017-18)

Map 8.5 depicts the scene of the total number of person-days worked in the financial year 2017-2018 to the block-wise according to its category.The above table 8.6 gives the 100 days the complete status of work under MGNREGS. Out of all households, only 7.07 percent of households in the district reached a 100-day limit of work. The CD block Sitalkuchi has 23.22 percent of households and reached the 100-day limit of works under the scheme in a financial year. It has observed only 1.36 percent of households from Koch Bihar-I reached 100 days limit. Overall, 4.33 percentage of SC households have received over 100 days' limits of work. Out of these maximum percent of SC households received over 100 days limits from Sitalkuchi block (14.62%) followed by Haldiabri (12.35%), Mathabhanga-I (8.78%), and so on. Only 0.64 percent of SC Households from Koch Bihar-I received over 100 days limit. Only 0.31 percent of ST households received over 100 days of work from the CD block Mekhliganj.

8.4.3. Male-Female Participation of MGNREGS Works

In an earlier study by Gnyaneswar (2006), the scheme has emerged as an essential tool for female participation in work,creating women empowerment. The scheme has become "a beacon of light in the empowerment of the rural women" and helped develop livelihood status and socio-economic conditions by providing equal wages to male and female workers. Here, it is important to note that rural participation of rural women is higher than rural men workers. The research shows that 56.11 percent of rural females and the remaining 43.89

percent were male participation in the district. Participation of the higher percentage of female workers is found at Mathabhanga-II (71.49%) and lowest at Tufanganj-II (50.99%). Maximum participation of male worker was found at Koch Bihar-I (48.33%) and whereas lowest at Mathabhanga-II (28.51%) (table 8.7).

Table 8.7: Block-Wise Male-Female Participation of Workers of MGNREGS

Block	Male (%)	Female (%)
Koch Bihar-I	48.33	51.67
Koch Bihar-II	44.89	55.11
Tufanganj-I	44.99	55.01
Tufanganj-II	49.01	50.99
Dinhata-I	45.07	54.93
Dinhata-II	36.84	63.16
Sitai	42.78	57.22
Haldibari	47.25	52.75
Mekhliganj	45.10	54.90
Mathabhanga-I	43.76	56.24
Matha Bhanga-II	28.51	71.49
Sitalkuchi	47.87	52.13
Total	43.89	56.11

Source: www.nrega.nic.in (FY 2017-18)

8.4.4. Types of Works under MGNREGS

Study found that under the public work relating to natural resource management, the work of rural infrastructure development was highest in Koch Bihar–I block (Rs. 131.51 lakh) followed by Dinhata-II (Rs. 97.5 lakh) and Sitalkuchi (Rs. 89.76 lakh). Under the work of drought-proofing, the Sitai block having the highest work. (Rs. 820.62 lakh), whereas in flood control work highest in Dinhata-II block (Rs. 660.97 Lakh). For agricultural development to develop the micro irrigation system in Koch Bihar –II bock followed by Dinhata-II, Dinhata-I whereas it was deficient in Sitalkuchi, Mekhliganj and Mathabhanga-I block (table 8.8).

Table 8.8: Public Work Relating to Natural Resources Management (Rs. In Lakhs)

Block Name	Rural Infrastructure	Drought Proofing	Land Development	Flood Control & Protection	Micro Irrigation Work	Renovation of Traditional Waterbody
Koch Bihar-I	131.51	791.52	150.42	382.72	17.22	0.24
Koch Bihar-II	8.35	382.98	226.77	406.55	184.35	4.73
Tufanganj-I	9.02	192.41	192.7	372.52	50.46	1.36
Tufanganj-II	0	92.64	169.76	52.18	94.24	1.07
Dinhata-I	37.08	48.06	660.97	27.76	123.61	0.05
Dinhata-II	97.5	559.57	406.16	841.59	127.75	0
Sitai	14.66	820.62	299.73	58.08	113.22	0
Haldibari	0	352.69	208.57	54.15	36.29	0
Mekliganj	16.95	79.38	10.04	76.44	7.18	0
Mathabhanga-I	15.94	17.83	86.81	380.06	3.7	0.7
Matha Bhanga-II	1.91	440.32	132.33	367.69	62.12	0.37
Sitalkuchi	89.76	101.25	279.2	589.52	7.12	38.97

Source: www.nrega.nic.in (FY 2017-18)

Table 8.9: Individual Assets for Vulnerable Sections (Rs. In Lakhs)

Block Name	Fisheries	Food Grain	Water Conservation and Harvesting	Works on Individual Land
Koch Bihar-I	0	0.25	6.78	1608.71
Koch Bihar-II	8.17	0.02	16.61	1051.65
Tufanganj-I	0	0.13	10.6	3535.2
Tufanganj-II	0	0	67.45	2851.39
Dinhata-I	0	0.02	166.92	768.41
Dinhata-II	0	0.03	324.24	467.44
Sitai	0	0.1	6.42	918.3
Haldibari	0	0	21.08	1436.05
Mekliganj	0	0	6.84	1534.06
Mathabhanga-I	0	0.1	0.75	3115.68
Matha Bhanga-II	0	0	0.52	747.92
Sitalkuchi	0	0.1	11	1534.21

Source: www.nrega.nic.in (FY 2017-18)

The data from the FY 2017-2018 observed that to create individual assets for the vulnerable section have done on fisheries, food grain, Water conservation and harvesting and works on individual land. We observed that some developments of fisheries are found in

the Koch Bihar-II block. Works on an individual section like soil digging, vermin compost, plantation, etc., have been observed in Tufanganj-I (Rs. 3535.2 Lakh), Mathabhanga-I (Rs. 3115.68 Lakh), Tufanganj-II (Rs. 2851.39 lakh).

8.5. Results and Discussion:

8.5.1. Characteristics of MGNREGS Household by Migration Status

This study shows the relationship between basic household features of the migrant and non-migrant households regarding MGNREGS status. Of the total surveyed households, 83.9 percent of them received MGNREGS job cards. Of them, 65.5 percent of households with MGNREGS job cards have at least one member migrated outside the villages (Table 8.10).

Table 8.10: MGNREGS Household According to their MigrationStatus

Job cads of Households (%)		Migration status (%)		Grand Total (%)
Yes	No	Non-migrant	Migrant	
83.9	16.1	33.5	65.5	100

Source: Field Study, 2017-2018

The study indicates that despite being the beneficiary of MGNREGS, some households sent their family member(s) to another place for better income. As per migration status, it has been observed that 33.5 percent of non-migrants receive job cards and 16.1 percent of total households in the district did not receive the job cards (table 8.10). The study focuses on the peoples belonging from the BPL category wholly depend on out-migration to fulfill livelihood. This was causes for the uncertainty, irregularity, less frequency of work involved in this scheme. As a result, beneficiaries faced problems about when and how many days of work and what wage rates they will get (Korra, 2015).

Table 8.11: MGNREGS Household by their Caste and Migration Status

Caste	Migration status (%)		Total (%)
	Non-migrant	Migrant	
SC	22.2	43.7	65.9
ST	0.0	.6	.6
OBC	7.2	21.0	28.1
General	4.2	1.2	5.4
Total	33.5	66.5	100.0

Source: Field Study, 2017-2018

Out of total65.9 percent of job card holding beneficiaries to Scheduled caste (SC) communities, followed by OBCs (28.1%), General (5.4%), and STs (.6%). Simultaneously, financially vulnerable deprived communities like the Scheduled caste (SC) and OBC are

comparatively more engaged, whereas general caste and STs are less in number in the work of MGNREG Scheme. Among the MGNREGS households, a large percentage of out-migration happened from SCs (43.7%) and OBCs (21.0%), where STs and general castes were less inclined to do so (Table 8.11). Similarly, non-migrants' households belong to SCs and OBC communities. The household having better resources and assets are comparatively less registered in MGNREGS. Moreover, it is also noted that non-MGNREGS beneficiaries are unwilling to move their place of originfor their better household assets.

Table 8.12: MGNREGS Households by their Occupation and Migration Status

Present occupation	Migration status (%)		Total (%)
	Non-migrant	Migrant	
Cultivator	7.8	13.8	21.6
Agricultural labours	6.6	21.6	28.1
Construction labour	.6	5.4	6.0
Labour at brick kilns	5.4	4.8	10.2
Household industry workers	4.8	4.2	9.0
Private sector	.6	1.8	2.4
Business	2.4	4.2	6.6
Government service	1.8	2.4	4.2
Others	3.6	8.4	12.0
Total	33.5	66.5	100.0

Source: Field Study, 2017-2018

The above table8.12 shows a 28.1 percentage of agriculture labours and 21.6 percentage cultivators of households' posses MGNREGS employment card whereas 21.6 percent and 13.8 percent are the migrants from agricultural labour cultivator respectively. Cultivators have less access to the scheme than agricultural labours, but it was not, so much difference observed between them when it comes to migration. It is clear that some cultivators and agricultural labours want to engage in this scheme during the agriculture season, whereas some landless construction labour, cultivator, and agricultural labours prefer to out-migrate other regions for their livelihood. About the scheme, it was observed that 83.9 percent of the household having job cards, whereas 16.1 percent do not have them.

Table 8.13: MGNREGS Households by the Amount of Land and Migration Status

Amount of land (bigha)	Migration status (%)		
	Non-migrant	Migrant	Total (%)
<3	10.8	35.9	46.7
3-6	2.4	8.4	10.8
>6	3.6	6.6	10.2
Landless HH	16.8	15.6	32.3
Total	33.5	66.5	100.0

HH-Household, one*bigha*=0.1338 *hectare* or 1/3-*acre,* Source: Field Study, 2017-2018

It seems the amount of land play an insignificant role in getting the jobs under MGNREGS. The table shows the amount of land less than 3 *bigha* having higher percentage (35.9%) of migration. Thus, the land having more than 6 *bigha* with MGNREGS job cards are less chances to out-migration (6.6%) than landless the landless beneficiaries. Out of 32.3 percent are landless poor people who had job cards, 16.8 percent did not engage in migration, and they depended on locality and MGNEGS (table 8.13).

Table 8.14: MGNREGS Worker According to their Sex and Migration Status

Gender	Migration Status (%)		Total (%)
	Non-migrant	Migrant	
Male	28.7	59.9	88.6
Female	4.8	6.6	11.4
Total	33.5	66.5	100.0

Source: Field Study, 2017-2018

Table 8.14 shows 88.6percent were male workers and 11.4 percent of them are females. Out of allout-migrant households, 59.9 percent of individual male workers belong to migrant households, whereas the remaining 28.7 percentage are non-migrant (table 8.14).

Table 8.15: Block-Wise Distribution of Households According to MGNREGS Job Cards and Migration Status

Block	Job card of household (%)		Migration status (%)		Total (%)
	Yes	No	Non-migrant	Migrant	
Dinhata-I	41.7	58.3	40.0	60.0	100.0
Dinhata-II	33.3	66.7	0.0	100.0	100.0
Haldibari	100.0	0.0	0.0	100.0	100.0
Koch Bihar-I	85.7	14.3	16.7	83.3	100.0
Koch Bihar-II	100.0	0.0	58.8	41.2	100.0
Mathabhanga-I	100.0	0.0	20.0	80.0	100.0
Mathabhanga-II	100.0	0.0	17.6	82.4	100.0
Mekhliganj	75.0	25.0	33.3	66.7	100.0
Sitai	100.0	0.0	66.7	33.3	100.0
Sitalkuchi	75.6	24.4	47.1	52.9	100.0
Tufanganj-I	100.0	0.0	24.0	76.0	100.0
Tufanganj-II	100.0	0.0	27.3	72.7	100.0
District-Koch Bihar	83.9	16.1	33.5	66.5	100.0

Source: Field Study, 2017-2018

Interactions with the workers focused that when an active family member is migrated to other places for work or employment, another adult member of the family usually engages in the scheme.Korra (2015) revealed that the pattern of out-migration or working within the MGNREGS depends on the dimensions of family, gender, and age composition, but

it also depends on the amount of working days, wages, number of job cards within the employment scheme. Out of twelve study blocks, beneficiaries from Haldibari, Koch Bihar-II, Mathabhanga-I, Mathabhanga-II, Sitai, Tufanganj-I, and Tufanganj-II having 100 percent of the employment card of the respondents. Of 33.3 percentage respondents having job cards in the Dinhata-II block, the remaining 66.7 percent are job cards. Similarly, Dinhata-I blocks having lower parentage of job cardholders. It is also found that the lower percentage of job cards for employment sometimes a higher percentage of out-migration. At Dinhata-II block, all the respondents are migrants to other places for their livelihood (table 8.15).

Table 8.16: MGNREGS Households and Working Days

Block	Working Days (%)			Total (%)
	<50 days	51-60 days	>61 days	
Dinhata-I	100.0	0.0	0.0	100.0
Dinhata-II	100.0	0.0	0.0	100.0
Haldibari	80.0	20.0	0.0	100.0
Koch Bihar-I	94.4	5.6	0.0	100.0
Koch Bihar-II	100.0	0.0	0.0	100.0
Mathabhanga-I	90.0	10.0	0.0	100.0
Mathabhanga-II	94.1	5.9	0.0	100.0
Mekhliganj	100.0	0.0	0.0	100.0
Sitai	100.0	0.0	0.0	100.0
Sitalkuchi	100.0	0.0	0.0	100.0
Tufanganj-I	72.0	4.0	24.0	100.0
Tufanganj-II	90.9	0.0	9.1	100.0
Total	92.8	3.0	4.2	100.0

Source: Field Study, 2017-2018

Table 8.16 found that 92.8 percent of respondent are engaged less than 50 days in a year. Out of, only 4.2 percentage and 3 percent of the respondents have received their work more than 61 days and 51 to 60 days in 2017-18 in Koch Bihar district. The study revealed that all of workers got employment less than 50 days in a year of CD block Dinhata-I, Dinhata-II, Koch Bihar-II, Mekhliganj, Sitai, and Sitalkuchi.

Table 8.17: Number of Working Days of MGNREGS by their Gender

Working days	Gender (%)		Total (%)
	Male	Female	
<50 days	87.7	12.3	100.0
51-60 days	100.0	0.0	100.0
>61 days	100.0	0.0	100.0
Total	88.6	11.4	100.0

Source: Field Study, 2017-2018

Numbers of completed working days are low to the female worker comparatively to the male workers in the district. Overall, the minimum number of working days is less than 50 days, where 87.7 percent are male, and 12.3 percent is a female worker in the district. Interestingly,no female worker engaged the MGNREGS to work more than 51 days to 100 days in 2017-18 in Koch Bihar district. It indicates that female worker participation is less in this programme in the study area (table 8.17).

Table 8.18: Annual wages of MGNREGS Workers by their Sex

Annual wages (Rs) from MGNREGS	Gender (%)		Total (%)
	Male	Female	
<5000	28.1	6.6	34.7
5000-10000	53.3	4.8	58.1
>10000	7.2	0.0	7.2
Total	88.6	11.4	100.0

Source: Field Study, 2017-2018

The critical aspect to look into wages of MGNREGS where the majority of respondents (58.1%) annual wages from the scheme is Rs. 5000 to 10000 and a very negligible number of them received wages more than Rs. 1000 (7.2%). In wage differentiation,most of the male workers receive Rs. 5000 to 10000 (53.3%). It was 4.8 percent for female workers (table 8.18).

Table 8.19 gives three wages mentioned above categories: workers from most non-migrant households account for annual wages Rs 5000 to 10000 (23.4%) out of 33.5 percent of total non-migrant participants. Individual workers who paid lower wages have to turn on migration from the Koch Bihar district villages.

Table 8.19: Annual Wages of MGNREGS and Migration of Workers by their Sex

Annual wages (Rs) from MGNREGS	Migration Status (%)		Total (%)
	Non-migrant	Migrant	
<5000	8.4	26.3	34.7
5000-10000	23.4	34.7	58.1
>10000	1.8	5.4	7.2
Total	33.5	66.5	100.0

Source: Field Study, 2017-2018

Table 8.20: Asset Creation under the MGNREGS Work

Block	Soil digging for Road repair (%)	Plantation (%)	Well digging, weed clear, and drainage cleaning (%)	Total (%)
Dinhata-I	80.0	20.0	0.0	100
Dinhata-II	100.0	0.0	0.0	100
Haldibari	40.0	0.0	60.0	100
Koch Bihar-I	100.0	0.0	0.0	100
Koch Bihar-II	64.3	0.0	35.7	100
Mathabhanga-I	70.0	0.0	30.0	100
Mathabhanga-II	100.0	0.0	0.0	100
Mekhliganj	100.0	0.0	0.0	100
Sitai	81.8	0.0	18.2	100
Sitalkuchi	96.8	3.2	0.0	100
Tufanganj-I	68.0	4.0	28.0	100
Tufanganj-II	0.0	54.5	45.5	100
Total	78.8	5.6	15.6	100

Source: Field Study, 2017-2018

8.21: Type of MGNREGS Work by their Migration Status

Migration Status	Types of Work			Total (%)
	Soil digging for Road repair (%)	Plantation (%)	Well digging, weed clear, and drainage cleaning (%)	
Non-migrant	83.3	3.7	13.0	100.0
Migrant	76.4	6.6	17.0	100.0
Total	78.8	5.6	15.6	100.0

Source: Field Study, 2017-2018

8.5.2 Implications of MGNREGS on Surveyed Households

In this portion, the researcher has been analyses on the consequences of MGNREGS on beneficiary households. Asset creation under the MGNREG Scheme in the district according to the surveyed household that 78.8 percentage works has been done under the scheme was soil digging for road repairing, 15.6 percentage was well digging, weed clear and drainage cleaning, and 5.6 percentage were for plantation. It was surprising that only one CD block, Tufanganj-I, was done under these work categories, where 68 percentage works were done on soil digging for road repairing, 28 percentage for weed clear and drainage cleaning, and only 4 percent were for plantation. It is also noted that 54.5 percentage works under plantation (tree plantation, banana trees, betel nut tree, lemon trees,and so on) has been done in CD block Tufanganj-II, and the remaining 45.5 percentage work was done for well digging, weed cleaning, and drainage cleaning. The study reveals all works done for rural infrastructure related to road repairing in CD block, namely Dinhata-II, Koch Bihar-I,

Mathabhanga-II, and Mekhliganj. Table 8.21 focuses on the majority percentage of migrant and non-migrant workers engaged in soil digging for road repairing under the scheme.

Table 8.22: Improvement of Annual Income (Rs.)by MGRNEGS Worker and their Migration Status

Increased income (Rs.)	Migration status (%)		Total (%)
	Non-migrant	Migrant	
<5000	8.4	26.3	34.7
5000-10000	23.4	34.7	58.1
>10000	1.8	5.4	7.2
Total	33.5	66.5	100.0

Source: Field Study, 2017-2018

The study focused that out of 58.1 percent of households engaged in this scheme, and they improved their income. As a result, 66.5 percentage worker who are migrated they improved their family income. Table8.22 shows 23.4 percent of non-migrant respondents who improved their family income Rs5000 to 10000 after receiving this scheme in the district.

8.5.3.Perception of MGNREGS Workers

MGNREGS is a significant rural employment generation scheme. A major cause of migration is a lack of employment opportunity in the rural area, so MGNREGS that generates rural employment should adversely affect rural-urban migration. Our study considered a different aspect of MGNREGS to analyse its impact on sample households (Kumar and Deogharia, 2017). The beneficiaries earned from MGNREGS benefit from the rural assets and rural infrastructure development (Mishra et al. 2014).

The perception of the beneficiary works under the scheme indicates its effectiveness on socio-economic condition and migration in the district. Under this scheme, the work satisfaction is based on working distance, the number of working days, frequency of work, and wages based on the "five-point Likert Scale", which is considered an "interval scale and result is shown as weighted mean". Itis significant with uniform difference like 1 to 1.79, it means strongly disagree. From 1.8 to 2.59, it means to disagree. From 2.60 to 3.39, it means neutral; from 3.40 to 4.19, it means agree; from 4.20 to 5, it means strongly agree (Pimentel, 2010).

Table 8.23: Descriptive Statistics on the Perceptions of Beneficiaries of MGNREGS Workers by Five-Point Likert Scale

Statements	N	Minimum	Maximum	Mean	Std. Deviation
I have needed more job cards	334	1	5	3.52	1.249
I have needed more working days	334	1	5	4.5000	.86905
I am satisfied with the frequency of work	334	1	5	3.9072	.93981
I think with the wages of MGNREGS should be an increase	334	1	5	4.7695	.50000
I am satisfied with working distance from home	334	1	5	4.3533	.68513
Valid N (listwise)	334				

Note: 5 strongly agree, 4 agree, 3 neutral, 2 disagree, and 1 strongly disagree

In the first statement, the mean is 3.52. Hence it means that most beneficiaries agree as to whether they need more job cards for the adult member of their families. The second statement is 4.5; it means most of the beneficiaries involved in the MGNREGS have needed more working days. The third statement reveals they have been satisfied with the frequency of work in a financial year. The fourth statement shows 4.7695; it means most beneficiaries strongly agreed that the wages of MGNREGS should be increased. The last statement reveals that most beneficiaries are strongly satisfied with this scheme's working (table 8.23). According to MGNREGS Act, the work should be within a 5 km radius of the villages, and more than 5 km will need extra paid to the worker.

8.5.4. Impact of MGNREGS on Employment and Migration by Multiple Regression Analysis

The study focused that after working under the MGNREGS programme, the number of labour days was increased. Out of all households, 7.2 percent of them have increased their household working days 50 days to 100 days per year, and the remaining 92.8percent of them increased up to 50 days in the same year. The scheme's implementation has been of much help to needy households by providing 83.9 percentage respondents. Out of the 66.5 percentage have under the out-migration category. A similar observation has been made by Harishet al. (2011) where before engagement of this programme, the sample households were employed on their own-farm. The number of day's beneficiaries worked under MGNREGS programmes affected by the factors like status of out-migration, age, gender, monthly income, the status of job cardholder, number of job card, and frequency of work to analyse the relationship between the number of days beneficiaries worked under the scheme and the selecting factors.

Multiple linear regression models have been used to identify the factors to identify the number of days and income generation of the beneficiaries worked under MGNREG Scheme. The two empirical models used for estimation was the form of the following equations;

$$Y_a = \propto + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 \dots \dots \dots \dots (1)$$

$$Y_b = \propto + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 \dots \dots \dots \dots (2)$$

Description of the variables

Y_a= Number days work received under the last financial year (out of 100 days)

Y_b= Workers income (rupees) from MGNREGS

α=Intercept, a scale of the parameter

X_1 =Rural out-migration (Intercept dummy 1 for out-migrants and 0 for non-migrant)

X_2 =Age of respondents (in Years)

X_3= Gender (Intercept dummy 1 for male and 0 for female)

X_4=Monthly Income (rupees)

X_5=Job cardholder (intercept dummy 1 for Yes and 0 for No)

X_6= Job cardholders in the family (in numbers)

X_7= Frequency of works in the last Financial Year (FY-2017-18)

Table 8.24: Factors of Number of Days Beneficiaries Worked Under the MGNREGS Programme

Model (Y_a)	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	1.614	3.563		.453	.651	-5.415	8.643
Out-migration	-3.058	1.527	-.082**	-2.003	.047	-6.070	-.046
Age	.019	.049	.014	.387	.699	-.078	.116
Gender	3.806	1.826	.074**	2.084	.038	.204	7.408
Monthly income	.000	.000	-.079**	-2.085	.038	-.001	.000
Job card holder	3.440	2.880	.073	1.194	.234	-2.242	9.122
Number of job card	2.742	.912	.125**	3.008	.003	.944	4.541
Frequency of work	6.919	.445	.745***	15.546	.000	6.041	7.797

**p<0.05 and ***p<0.001 is significant at 95 and 99 percent confidence level
Source: Data have been computed by the researcher based on the field survey.

Above table 8.24 shows the variables like age and job card status of the beneficiaries were not-significant, indicating they are not significantly impacted by the change in the

dependent variable of the number of days beneficiaries worked under MGNREGS. The co-efficiency of other variables like the status of out-migration, gender, monthly income, number of job cardholders of the family, and frequency of work under MGNREGS was significant. The coefficient for out-migration status for the variable was -.082, indicating that the number of working days under the programme decreased by 0.082 days if the worker was out-migrant. Similarly, for gender, the coefficient was .074, indicating if a worker was male, and the number of working days in the scheme was increased by .074 days. The monthly income coefficient was -.079 indicating that if the household income increased, the number of working days decreased by .079 days. The coefficient value of the number of job cards in the family was .125, implying that if the number of job cards of the adult member family increased, the number of days of work under the scheme increased by .125 days. The coefficient value of frequency of work per year indicates, if a worker received more than 5 times in a year, the number of working days increased by .745 times. The adjusted R^2 value for the model (Y_a) was 0.779, indicating a good fit, explaining 77.9 percent of the dependent variable total variations (table 8.24).

8.5.5. Impact of MGNREGS on Income and Migration by Multiple Regression Analysis

The above table 8.22 shows after working with the MGNREGS programme, 34.7 percent of out-migrant beneficiaries increased their income up to 10000 rupees, whereas it was 23.4 percent of non-migrant respondents in Koch Bihar district

Table 8.25: Factors of Workers Income from MGNREGS Programme

Model (Y_b)	Unstandardised Coefficients		Standardised Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	682.533	740.196		.922	.358	-777.525	2142.590
Out-migration	-869.538	317.159	-.124**	-2.742	.007	-1495.144	-243.932
Age	-2.883	10.248	-.011	-.281	.779	-23.098	17.331
Gender	946.437	379.317	.098**	2.495	.013	198.225	1694.650
Monthly income	-.092	.047	-.082**	-1.959	.049	-.185	.001
Job card holder	378.361	598.366	.043	.632	.528	-801.933	1558.655
Number of job card	461.014	188.543	.111**	2.445	.015	89.082	832.947
Frequency of work	1270.939	92.457	.727***	13.746	.000	1088.564	1453.313

**p<0.05 and ***p<0.001 is significant at 95 and 99 percent confidence level
Source: Data have been computed by the researcher based on the field survey.

Around 7.2 percent of the district total respondents have to increase up to 30000 rupees per year. Interactions with the scheme workers clear that; they have to bring upthis work under the programme been only after the agricultural season. The annual income from MGNREGS was determined on the contributing factors like status of out-migration, age, gender, monthly income, job cardholder status, number of job cards, and frequency of work to analyse the relationship between income and contributing factors (table 8.25). The coefficient value of migration statues (-0.124) was negative, indicating an inverse relationship between wages earn (dependent variable) from MGNREGS and migration (independent variable). This inverse relationship identified due to out-migration the chances of earned from MGNREGS decreases by -.124 times. The coefficient value of gender was positive, which implies that male respondents' participation increased their incomes by 0.098 times. Interestingly,the higher the family incomes, the chances to earn from MGNREGS are low. The coefficient value of the number of job cards (0.111) indicates a positive relative relationship to increase the wages under the scheme. Another vital variable, the frequency of work in a year, highly positively correlated with wages earn from MGNREGS. The adjusted R^2 value for the model (Y_b) was 0.731, indicating a good fit, explaining 73.1 percent of the dependent variable (Table 8.25).

8.6. Conclusion:

MGNREGS has massive criticism on the quality and sustainability of asset creation for rural India's livelihood development. It is an ecological act that creates sustainability through income generation among the rural peoples in the country where the unskilled workforce easily accessible to the minimum job opportunities. India's government invested a considerable amount in the last financial years, but the outcomes are not up to the mark. In conclusion, we may say that there is no doubt that this is a grass-root level programme, but still, there are many inherent problems in this scheme. The government should think about increasing the number of working days, wages, and frequency of work, which will reduce the out-migration from rural Koch Bihar district. The significant findings are summarised;

1. Average 47.83 percent of the district's household was worked under the MGNREGS in the financial year of 2017 to 2018. The highest percentage of households allotted worked identified in Haldibari (78.76%), followed by Sitalkuchi (56.57%), Mathabhanga-II (54.61%),Tufanganj-II (51.61%), and Mekhliganj (51.61%). The minimum percentage of households worked to the total block household identified in

Mathabhanga-I (35.26%) followed by Tufanganj-I (41.31%), Dinhata-I (42.56%),Dinhata-II (43.69%),and Sitai (44.42%).

2. Out of all, 54.79 percent of the SC workers are in an inactive category, whereas 44.37 percent were non-SC/ST category of active workers in the district. The majority percent of active SC workers are observed in the Mathabhanga-I block (74.37%), and the least percentage of SC active workers found in Dinhata-II (41.03%). Similarly, the maximum percentage of active other caste workers was found in Dinhata-I (57.25%), and the minimum percentage was observed in Mekhliganj (25.24%). Maximum active ST workers were observed in Mekhliganj (3.07%) and lowest in Sitalkuchi block (0.01%).

3. Out of all households, only 7.07 percent of households in the district reached a 100 day limit of work. The CD block Sitalkuchi has 23.22 percent of households and reached 100 day limit of works under the scheme's scheme in a financial year. It has observed only 1.36 percent of households from Koch Bihar-I reached 100 days limit. The overall 4.33 percentage of the SC households has been received over 100 days' limit of work. Out of these maximum percent of SC households received over 100 days limits from Sitalkuchi block (14.62%) followed by Haldiabri (12.35%), Mathabhanga-I (8.78%), and so on.

4. The study shows that 56.11 percent of rural females and the remaining 43.89 percent were male participated in the district. Participation of the higher percentage of female workers is found at Mathabhanga-II (71.49%) and lowest at Tufanganj-II (50.99%). Maximum participation of male workers was found at Koch Bihar-I (48.33%) and lowest at Mathabhanga-II (28.51%).

5. Of the total surveyed households, 83.9 percent of them received MGNREGS job cards. Of them, 65.5 percent of households with MGNREGS job cards have at least one member migrated outside the villages.

6. The amount of land less than 3 *bigha* having higher propensity (35.9%) of migration. Thus, the land having more than 6 *bigha* with MGNREGS job cards are less inclined to out-migration (6.6%) than landless households. Out of 32.3 percent are landless poor people who had job cards, 16.8 percent did not engage in migration, and they depended on locality and MGNEGS.

7. Overall, 78.8 percentage work done under the scheme was soil digging for road repairing, 15.6 percentage was well digging, weed clear and drainage cleaning and 5.6 percentage were for plantation.

8. According to the five-point Likert Scale, most beneficiaries agree that they need more job cards for the adult member of their families. Most beneficiaries strongly agreed that the wages of MGNREGS should be increased. The last statement reveals that most of the beneficiaries aredelighted with the working of this scheme.

9. The variables like age and job card status of the beneficiaries were not-significant, indicating they are not significantly impacted by the change in the dependent variable of several days beneficiaries worked under MGNREGS. However, the co-efficiency of other variables like the status of out-migration, gender, monthly income, number of job cardholders of the family, and frequency of work under MGNREGS was significant.

10. After working with the MGNREGS programme, the study shows that 34.7 percent of out-migrant beneficiaries increased their income up to 10000 rupees, whereas 23.4 percent of non-migrant respondents in Koch Bihar district. Overall, 7.2 percent of the district's total respondents have to increase up to 30000 rupees per year. Interactions with the scheme workers clear that; they have preferred to work under the programme have been only after the agricultural season.

11. The annual income from MGNREGS was determined on the contributing factors like status of out-migration, age, gender, monthly income, job cardholder status, number of job cards, and frequency of work to analyse the relationship between income and contributing factors.

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CHAPTER-9

SUGGESTIONS AND CONCLUSIONS

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9.1. Introduction:

The study of migration is depicting one of the crucial socio-economic issues in the Indian context. The development of accessibility of transport and communication system reduces the cost of movement of peoples from one place to another in the present century. So, it has indicated a universal phenomenon in the age of industrial development. Presently we also called that migration "a boon for industrial advancement" (Amarendra, 2014) and which is also called the "barometer" the transforming of social, economic, and political situations. (Nasir et al. 2014). The study of out-migration called the "strategy of the households to diversify its livelihood" (Kumar, 2016). The rural-out migration significantly changed the socio-economic structures in the rural areas of Koch Bihar district. Recently, the activities related to livelihood are being diversified by the rural-out migration. The rural-urban trend is increasing, and the rural populations are relocating towards the urban area to improve their job opportunities. We found that the shortage of work in rural Koch Bihar and employment and wages in different urban areas attract urban areas. We have already found the out-migration happened to uneven regional development in our country, explaining the 'push' and 'pull' factors. In this situation, the policymakers arose the question, "can we check the rural out-migration?" through sustainable development.

9.2. Major Findings: The study has pointed out a geographical rural out-migration survey and found some crucial findings at a glance as follows;

1. The simple random survey observed that out of all respondent households, 68.3 percent are out-migrants, and 31.7% are non-migrants during the field observation.

2. The majority of both migrant (98.2%) and non-migrant (95.2%) respondents ages 15-65. 86.4 percent of them are male out-migrants, and 11.8% are female out-migrant respondents in the district.

3. The Scheduled Caste comprising 44.7 % of them are migrants and 19.1% are non-migrant. The second-largest social group of the surveyed respondent is other Backward Classes (OBC), which comprises 19.1%, is migrants, and 7 % of them are non-migrant. In this category, the minority peoples from Muslims are included in this regard. Only 3.5% of the surveyed respondents belong to Scheduled Tribe (ST) groups, whereas 2.5% of them are migrants, and 1.5 % are non-migrant.

4. As per the present study, 37.7% of respondents are below the poverty line, and 62.3 % are not under this category. Out of all migrant respondents, 25% of them are under the BPL category.

5. The fieldwork shows that 71.9% of the respondent's family belong to the nuclear family. Overall, 58.3 % of the migrants are nuclear families, and 10% are joint family. Overall, 13.6% and 18.1% of non-migrants are nuclear and joint family structure.

6. The study found out of 68.3% of the migrant respondents, 13.6 % are engaged with cultivation, and 18.6% are agricultural labour. In contrast, 6.5 % of them are cultivators, and 5.5% are agricultural labour for non-migrants (31.7%) in the district. Comparatively, it has been observed that both migrant and non-migrant respondents are engaged with agriculture and household-based industry-related activities in the district.

7. A large percentage of labour out-migrant depends on third person searching for livelihood in India's different urban areas, and these third persons are called *Thikadar*. We observed that 47.1 % of the total respondents have to collect their source of work information from the *Thikadar*, followed by 39.7 % from the previous knowledge. Young migrants are generally found the information of destination by their studies.

8. The study depicting overall, 59.6 % of out-migrants did not have any migration experience before out-migration, while 40.4 % had earlier migration experience.

9. The field study depicted that 27.2 % of the respondents migrated in November, 20.6% in October, and 7.4% in September, while 44.9% responded they have no fixed time to out-migration from their origin. Respondents having cultivated land, after completing the *boro* cultivation season and after *Durga Puja,* they migrated to their destination. Moreover, they returned their home in March, April, and May. Similarly, 51.5 % of respondents did not have a fixed return time to the origin rejected, indicating the duration of rural out-migration is not equal for all out-migration. So, it is clear that the rural out-migrants are visited their selected area of destination with any particular months of the year. It proved the hypothesis there is a sign of seasonality of rural out-migration in Koch Bihar district.

10. The report also shows that all the North Bengal region districts' increasing out-migration trend from 1951 to 1961. The district Koch Bihar had shown 2.25 % of

out-migration in 1951, which had change into 3.33 % in 1961. The volume of migration has been changed due to the partition of India. However, there was a significant change of out-migration in West Bengal in 1971 for the "Indo-Pak war" (Census of India).

11. There are 1.67% of out-migrants in the total district population in 1971, which has been changed into 2.77 % in 1981. There was a negative change of out-migration has been observed in 1991. In the decade 1981 to 1991, the majority number of districts out-migration decreases to the district population. The Census of 2001 depicts 4.96 % of out-migrants to total district population, which has been changed into 6.15 % in 2011.

12. As per the field survey, the rural out-migration to the other state's urban areas is dominated by male (42.6%) migrants. The tendency of rural-urban migration has been regarded as "survival strategy by the poor" peoples in Koch Bihar district.

13. The study found the district having the seasonal change of population relocation, i.e., the 'seasonal rural out-migration.' Approximately 50% of the respondents have decided to out-migrate and return home within a particular time in a specific year. It indicates that the district has the characteristics of the sign of seasonality on rural out-migration.

14. The Koch Bihar district is showing a 16.56% increase in rural out-migration from 2001 to 2011.

15. The growth rate of out-migration in Koch Bihar district is 4.12 % annually in the last decade (2001 to 2011). The female growth rate (4.98%) is more than the male (2.68 %) out-migrants. The linear growth rate model for out-migration projection shows that the total out-migrants will be 244921 persons and 316376 persons in 2021 and 2031 respectively.

16. The field survey reveals approximately 60% of the rural out-migrants are migrated from rural areas to another region due to lack of employment or unavailability of jobs in rural areas of the district. The lack of land accounted for 20.7% and business for 8.9 % of the district's total rural out-migration. It also shows around 88.9 % of males, and the remaining 11.1 % are female out-migrants in Koch Bihar. Out of these, 54.8 % of males and 5.2% of females are migrated for employment or work for their livelihood. It is essential to note that 17.8 % of males and 3 % of females were out-migrated due to the lack of agricultural land. Interestingly, 8.1 % of males

and 0.7 % of females were migrated due to business-related work. Both males and females are indicated as migrated with the family of 3% of total migration.

17. The out-migration changes their occupation, wages, number of working days, expenditure. For example, approximately 53.7 % of the respondents paid monthly wages within less than rupees 5000, whereas increased rupees 9000 for 6.6% of respondents. After out-migration, it has been changed to 67.6% for more than rupees 9000 per month. The study also found that approximately 42.6% of the out-migrants' monthly expenditure was less than rupees 5000 per month before out-migration while increased to rupees 7000 for 46.3 % out-migrants.

18. The study observed that the different indicators like the place of birth, monthly income, expenditure, and work under MGNREGS etc. having a positive consequence on determining the rural out-migration in Koch Bihar district. Of the total surveyed households, 83.9% of them received MGNREGS job cards.

19. The amount of land less than three *bighas are* having higher percentage (35.9%) of out-migration. Thus, the land having more than six *bighas* with MGNREGS job cards having lower chance to out-migration (6.6%) than landless households. Out of 32.3 % of landless poor people having job cards, 16.8 % did not engage in out-migration and were depending on jobs in locality and MGNEGS.

20. The study implies that the household earned less than rupees 5000 from the MGNREGA scheme having a higher propensity of out-migration. These migrants are generally known as seasonal migrants.

21. The satisfaction level has been calculated based on different items like sanitation facility, drinking water facilities, and types of job and monthly income at the destination and overall satisfaction of MGNRGS work at the origin. Index of Satisfaction (IS) (developed by Hall, Yeh, and Tan, 1975) is showing the strength and weakness points of rural out-migration from the block-wise in Koch Bihar district (**Appendix-III.O**). We observed the overall value of the job and income types at the destination; the value is 0.13 and 0.46, respectively, which indicates the degree of satisfaction.

22. Finally, the rural out-migration affected rural agriculture and significantly impacted the rural females on women decision-making, cultural diffusion, and significant positive impact on remittance income.

9.3. Problems of Rural Out-Migrants: There are different problems of rural out-migrants have been observed in Koch Bihar district as follows;

1. Economic problems:

    I. The study found that 43.4% of the rural out-migrants have received only two days worked within a week, whereas only 3.5% of out-migrants were worked at least five days in the district.

    II. 53.7 % of the out-migrant respondent's wages were less than rupees 5000 per month, and only 6.6% of out-migrant respondents paid more than rupees 9000. Very low wages push the respondents to out-migrate other places.

    III. 42.6 % of the out-migrants reveal their monthly expenditure was rupees 3000.00 to 5000.00 per month at the origin. So, there is a problem of saving money among the out-migrants in the district. The savings generally depends on the migrant income and expenditure with the nature of out-migration.

    IV. There is a problem with working skills among the out-migrants respondents in the district. The results show there are 59.6 % of out-migrants are unskilled at the origin.

    V. As per the five-point Likert scale, most beneficiaries agree (3.52) as to whether they need more job cards for the adult's family member, and the majority of the beneficiaries involved in the MGNREGS have required more number working days (Likert scale 4.5).

2. Socio-Demographic problems:

    I. There are some negative impacts of out-migration on educational achievement when they have performed their family migration. Children are migrated with their families (3.7%) and dropped out of their schooling. Only 0.7 percent did not drop out of schooling. So, the results clear that parental migration with the child is the risk factor for school dropout among the district's children. Consequently, children are entering as labour by their parents or guardians.

The out-migrants face many problems at the destination in urban areas where people face many issues like unhygienic conditions, lack of drinking water, sanitisation, etc.

9.4. Suggestions for Check the Rural Out-Migration:

The study pointed out that the consequences of rural out-migration are associated with some problems in rural areas. The government of India has been started different first community development programmes in rural areas in the 1950s. In the different fifth year plan like the

sixth fifth-year plan, the government has begun to deal with a strategy for poverty. In the seventy-fifth year plan, the government worked on agricultural development and agricultural production, irrigation, and rising income among the BPL. The government of India has introduced "Swarnajayanti Gram Swarojgar Yojana" (SGSY). It establishes different Self Help Groups (SHGs), which are more practicable and admissible in rural areas of the district level in West Bengal. Later, in 2005 by the MGNREGA, the government has established the hundred days guarantee act of wage employment among the rural peoples and the country's most extensive livelihood security programme. Still, the rural out-migration is a survival strategy that reveals that the general socio-economic conditions pressure the peoples from rural to move the different places for some time. Therefore, the following suggestions can check rural out-migration from the Koch Bihar district:

1. Providing Double Wage Employment Opportunities: We have already found the different studies on the MGNREGA Scheme where most people are getting below 100 days job in every financial year and which is no enough for stop of the out-migration. If the government provides around 200 days guarantee job to the rural peoples for their livelihood, security will not go for out-migration.

2. Providing Urban Facilities: The research has already found that some people are going to the urban area for the different good infrastructure facilities like transport and communication, sanitation, drainage, solid waste, etc. So, the concept of PURA (Providing Urban Facilities in Rural Areas) should be applied. This concept of PURA has been developed by Dr A.P.J. Abdul Kalam, where he told the state government action should support improving rural areas' facilities (Kumar, 2014).

3. Potential Agricultural Development: The government should be starting to prepare the guidelines for sustainable agricultural development. The report should be started from the ground like the *Panchayat* level. This district is covered with tobacco cultivation, which is very harmful to cultivators. So, irrigation is needed to provide wide yielding varieties, start an agricultural credit facility, and crop insurance with this environment.

4. Development of Commercial Agriculture: The district is characterised by the small scale farming, which is one of the crucial disadvantages of commercial cultivation. So, there is a need to increase the size of land-holding for intensive commercial cultivation.

5. Development of Agro-Food Processing Units: Agriculture and its allied activities play a vital role in the economic growth (Sharma, 2014), and women can play a significant role in the agricultural sectors (Chayal and Dhaka, 2014). The need and importance of food with their vales create significant areas for employment development in rural areas. Suppose we set up different food processing industries of fruits, food grains, vegetables, mushroom production, milk, meat, fish, etc., which will reduce cultivation losses. The food processing sector is employment intensive (Gautam, 2012).

6. Development of Household Industry: Small scale household industrial development helps to eliminate rural poverty. The household industry can promote the engagement of women positively. Different types of "household industry or village industry" can add one or more family members, which will increase the per capita income of the family and reduce out-migration.

7. Development of Agro-Tourism: Agro-tourism activity exercises can help produce massive occupations in rural sectors that help decrease peoples' enormous scope movement from rural to urban areas. Comparatively, the cost of accommodation, recreation, etc., agro-tourism is lower than other tourism, as per the example of MART ("Maharashtra State Agri and Rural Tourism") in Maharashtra where 150 "agri-tourism centres" developed which are subsidised under government (Gautam, 2012).

8. Development of Border Tourism: The Indo-Bangladesh border covers the south and south-eastern part of Koch Bihar district. There are a considerable number of enclaves along the Indo-Bangladesh border. Enclaves or *Chitmahals* are the lands of one country located in another country. However, this problem of the international boundary has been solved, but having unique geographical characteristics that will attract national and international tourists by way of border tourism development. Moreover, it should identify the different "tourism potential areas" within Koch Bihar district (Barman and Roy, 2016), which will create jobs at the origin.

9. Development of Necessary Education: Education is an essential indicator for managing out-migration. The government should start vocational education from school to college level with practical exposure, which will help to earn a job quickly in their places.

10. As no record or register is kept up, it has been hard to follow the specific extent of out-migration. Consequently, the village Panchayat ought to keep up a register containing the points of interest of the migrants, spot of destination, term of absence from the village, and if conceivable, the terms and conditions under which they relocate. These points of interest should be refreshed occasionally, which will help identify the magnitude of out-migration.

11. "The Inter-State Migrant Work-Men Act-1979" is established to guide the administration states of the migrant workers and their financial improvement. The unnecessary impedance of work contractual workers or agents prompts misuse of migrants in numerous ways. Consequently, there is a critical requirement for their security—the upkeep of the register of migrant assists with watching the transient workers' prosperity. The 1979 Act gives enactment covering free clinical office, defensive apparel, appropriate convenience, venture compensation, and so forth, and this ought to be carefully upheld. The other work enactments giving security of most extreme long stretches of work, the lowest pay permitted by law, youngster and ladies security and government assistance ought to carefully furthermore, legitimately upheld. In such a manner, the collaboration of neighbourhood NGOs is of extraordinary assistance. Those NGOs may illuminate and teach about these enactments made for the assurance of their privileges.

12. The government should make essential strides and implement strict guidelines and guidelines that base wages should be paid to the migrant workers. The uneducated migrants ought to be instructed to get mindfulness regarding the "Minimum Wages Act" to shield them from abuse.

13. Finally, the government and NGOs should start different rural entrepreneurship programmes for youth, which will help rural sectors more skill and success.

9.5. Conclusions:

The present research, "A Study on Rural Out-Migration in Koch Bihar district, West Bengal: A Geographical Analysis," has provided some interesting conclusions. The research on migration and its related consequences are standard in the present day. Even though research on the problems of migration has not been resolved. We generally observed that different socio-economic determinants like age, unemployment, shortage of land, non-productive agricultural activities, and non-security among jobs in rural areas are the primary reasons behind out-migration. At the same time, productive development of cultivation, providing

guaranteed employment, and establishing various non-farm sectors at the village level in Koch Bihar can stop the out-migration and lead to sustainable development. In this research, it is also significant that many migrants who have benefited by the out-migration and improved their annual income and expenditure, per capita income, health expenditure and can be adapted by the cultural diffusion into their unknown destination.

In this way, there is quite a bit of rural out-migration rate in Koch Bihar district, which has been portrayed through essential information as examined by the above findings. Based on the discussions and individual field overview, conversations, and private connection with the members of migrant family units, the proposals made above have been thought of implementation for usage to elevate the helpless workers from their neediness and improve their financial status, which eventually upgrades the national economy and improves the uprightness of the country.

Hence, it is essential to note that the government should take the initiative to provide different effective rural policies through credit support, and rural peoples can easily access all kinds of facilities for their standard of living in the rural landscape. If the development increased at the top level, people could easily decide to stop rural out-migration with rural development.

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APPENDICES
APPENDIX-I
HOUSEHOLD SURVEY SCHEDULE FOR
RURAL OUT-MIGRANT RESPONDENTS OF KOCH BIHAR DISTRICT, WEST BENGAL (2017-2018)

A. PERSONAL INFORMATION OF THE RESPONDENT

Name of the respondent: …………………………………………………..

Father's name: ……………………………….   Religion: ...…………..

Caste: Gen/SC/ST/BC/OBC

Village/city……………………………………

Block Name………………………………...

District…………………………………………...

Place of interview: …………………………

Date: …………………………………………..

Time: ……………House Number: …………..

B. FAMILY-MEMBERS' INFORMATION OF THE RESPONDENT:

Sl No.	Name	Relation to migrated workers	Sex (M/F)	Marital status**	Age of marriage	Age	Education ***	Occupation ****
1								
2								
3								
4								
5								
6								
7								
8								
9								

N.B. **Marital status: a).Married-1, b).Unmarried-2,c), Widowed-3, d).Divorced-4.

***Education: a) Primary (I-IV)-1, b)High School (V-X)-2, c)Higher Secondary-3, d) (XI-XII)-4,e) Graduate (B.A)-5,f) Post Graduate (M.A)-6, g) PhD/M.Phil-7, h) Diploma-8, i)Vocational-9, j)Others (specify)-10.

****Occupation: a). Cultivation-1, b).Agricultural labour-2, c).Business-3, d).Construction labour-4, e).Govt. Service-5, f).Private service-6, g).Agent of any organisation (e.g., LIC/NGOs etc.)-7, h).Student-8, i). House wife-9, j). Infant-10

C. GENERAL INFORMATION OF THE FAMILY:

Where does your family live?	A. Village/rural-1 B. Town/urban-2 **C.** Government-3	
Do you have own house?	A. Yes-1 B. No-2	
Types of house;	A. Pucca-1 B. Kutcha-2 C. Semi-pucca-3	
Number of rooms in your house;	A. One-1 B. Two-2 C. Three-3 D. Four-4 E. Five-5 F. More than-6	
Do you have separate kitchen room?	A. Yes-1 B. No-2	
Main sources of lightning	A. Electricity-1 B. Kerosene-2 C. Solar Energy-3 D. Others	
Do you have electricity connection in your houses? Yes/No	A. Yes-1 B. No-2	
What is the source of drinking water?	A. Tap Water-1 B. Home tube well-2 C. Government deep tube well water-3 D. Others-4	
Availability of latrine?	A. Yes -1 B. No.-2	
Types of latrine	A. Flush/Pour latrine-1 B. Pit latrine-2 C. Service latrine-3	
Have you any cultivableLand of the family?	A. Yes-1 B. No-2	
If, yes, Amount of the land		
What is the type of land?	A. Irrigated land-1 B. Non-irrigated land-2 C. Barren land/wet land-3 D. Wasted land-4	
Total Amount of land?		
What are the main agricultural crops produces?	A. Rice-1 B. Wheat-2 C. Tobacco-3 D. Maize-4 E. Mustered oil-5 F. plantation agriculture-6	
Have you taken any ledged land for	A. Yes-1	

cultivation?	B. No-2	
If yes, From whom?	A. Friends-1 B. Relatives-2 C. Others-3	
Types of ledged land	A. Rent for money-1 B. Crops-2	
Livestock status	A. Yes-1 B. No-2	
Give the details of Household assets;	A. Mobile-1 B. T.V-2 C. bi-cycle-3 D. Bike-4 E. Four-wheeler-5 F. Others (specify)-6	
Have you any debt?	A. Yes-1 B. No-2	
If yes, from whom?	A. Bank-1 B. Co-peratives-2 C. Moneylenders-3 D. Others (specify)-4	

D. ORIGIN, DESTINATION, DETERMINANTS, INCOME AND EXPENDITURE AND CONSEQUENCES RELATED QUESTIONS OF MIGRATED PERSON:

What is place of origin/birth?	A. Present place-1* (*Name of the place*) **B.** Another place-2*	
How many years you are living at the present places/another?		
Are you a migrant person?	A. Yes-1. B. No-2	
No. Of migrated persons from your family	Male- Female-	
Is there any child migrated with you?	A. Yes-1 B. No-2	
Is the child dropped from schooling?	A. Yes B. No.-2	
What is your choice of destination**? **(Write the name of destination place; villages, district, State)	A. Rural areas of Other state-1 B. Rural areas of same state-2 C. Rural areas of other district-3 D. Rural areas of same district-4 E. Urban areas of other State-5 F. Urban areas of sameState-6 G. Urban areas of other district-7 H. Urban areas of same district-8	
Duration of stay at destination place*?	A. 0-6 months-1	

	B. 7-12 moths-2 C. 1-2 years-3 D. 3-5 years-4 E. More than 5 years-5	

What is the main reason for out-migration?	A. Employment/better employment - 1 B. Studies (2) C. Marriage (3) D. Movements of parents/earning member (3) E. Lack of land (4) F. Epidemics (5) G. Flood (6) H. Drought (7) I. Business (8) J. Others (9)	
What is the reason for moving at destination?	A. Availability of work-1 B. Better prospect of the family-2 C. Relatives or friends present at the destination-3 D. Availability of shelter-4	
Who was the decision maker in leaving your birth place or place of origin?	A. Self-1 B. Relatives-2 C. Friends-3 D. Parents/family-4 E. Employer-5 F. Others (Specify)-6	
Did anyone from your place of birth leave with you?	A. Yes-1 B. No-2	
If your answer is "yes", who moved with you? So, the mode of out-migration?	A. Self migration-1 B. Family migration-2 C. Group migration-3 D. Other (Specify)-4	
Total number of migrated person from your family? (give the details in gender-wise)	Total= Male= Female=	
What was your main source of information to move to your birth place?	A. Education- 1 B. Mass media-2 C. Contact with people who known as *Thikadar*-3 D. Previous knowledge (personal visit) -4 E. Other (specify)-5	
What was the primary activity before out-migration?	A. Self-employed in agriculture-1 B. Casual labour-2 C. Student-3 D. Self-employed in non-agricultural sector-4	

	E. Govt. service-5 F. Private service-6 G. Unemployed-7 H. Others-8	
What is your present activity at destination?	1. Labour in Construction - 2. Construction Contractor/*Thikadar* 3. Painter 4. Carpenter 5. Security Guards 6. Agricultural field 7. Labour at brick kilns 8. Agent of labour supplier 9. Auto driver 10. Factory labour 11. Trailors 12. Vendors 13. Maid-servant 14. Govt. service 15. Business	
How long at current job?	A. Less than 6 months-1 B. 6 months-1 year-2 C. 1 year-1.5 years-3 D. 1.5 years-2 years-4 E. 2 years-2.5 years-5 F. More than 3 years-6	
Have you previous migration experience?	A. Some experience-1 B. No experience-2	
Who maintain the guardianship of the family during migrant's absence?	A. Migrant's parent-1 B. Migrant's sibling-2 C. Wife of the migrant-3 D. Husband of the migrant-4 E. Son of the migrant-5 F. Other relatives-6	

Management of household activities in the absence of Emigrants-
   a. Agriculture/business
   b. Financial management
   c. House construction
   d. Medical care
   e. Communication with migrant
   f. Education of children
(N.B: Select every item and give the details who manages of the particular item)		

What is time of out-migration from village? If another time, please specify it?	A. September-1 B. October-2 C. November-3 D. Others specify it-4	

What is the time of return migration into the village? If another time, please specify it?	A. March-1 B. April-2 C. May-3 D. Others , specify it-4	
Where are you staying in your job?	A. Working site-1 B. Rented house-2 C. Others (specify)-3	
Frequency of visits by the out-migrant to their native place;	A. Three or more than in a year-1 B. Twice inn a year-2 C. Once in a year-3 D. Rarely-4	
No. of rooms in staying house	A. Single-1 B. Double-2 C. Tripple-3	
Is there any extra kitchen room?	A. Yes-1 B. No-2	
Is there any sanitation facility?	A. Yes-1 B. No-2	
Number of working days per week, before migration?	A. Four to five days-1 B. Five to six days-2 C. Six to seven days-3	
Number of working days per week, after migration?	A. Four to five days-1 B. Five to six days-2 C. Six to seven days-3	
Time of working hours per day, before migration?	A. Three to four hour-1 B. Four to five hour-2 C. Five to six hour-3 D. Six to seven hour-4 E. Seven to eight hour-5 F. More than eight hours-6	
Time of working hours per day, after migration?	A. Three to four hour-1 B. Four to five hour-2 C. Five to six hour-3 D. Six to seven hour-4 E. Seven to eight hour-5 F. More than eight hours-6	
How often did you receive your wages before migration?	A. Daily-1 B. Weekly-2 C. Monthly-3 D. Occasionally-4	
How often do you receive your wages after migration?	A. Daily-1 B. Weekly-2 C. Monthly-3 D. Occasionally-4	
How much your wage rate/day (in Rs.) before migration?		

How much your wage rate/day (in Rs.) after migration?		
How much total expenditure (in *Rs.*) of your family in a month before migration?		
How much total expenditure (in *Rs.*) of your family in a month after migration?		
What are the different modes of Expenditure of the migrant households? *(N.B; Give the amounts (Rs.) of expenditure of the said items)*	A. Household expenditure on food-1 B. Agriculture invest-2 C. Expenditure in education of dependent-3 D. Marriage and other Social functions-4 E. Buying land and building house-5 F. Saving and others-6 G. House construction-7 H. Debt-8	
Frequency of Sending money Remittances to Home *(N.B; Give the amounts (Rs.))*	A. Monthly-1 B. Once in 2-3 months-2 C. Once in 3-4 months-3 D. Once in a year-4 E. Once only after migration-5 F. Not yet send-6	
Mode of money Sending Remittances	A. By own bank account-1 B. By others bank account-2 C. Money order-3 D. Post office-4 E. Through fellow migrant workers-5 F. Not yet send-6	
Main Purposes of remittances		
Have you personal bank account?	A. Yes-1 B. No-2	
Monthly income (in Rs.) of the migrant workers before migration?		
Monthly income (in Rs.) of the migrant workers after migration?		
Job satisfaction on the working place;	A. Yes-1 B. No-2	

Use of dresses before migration;	A. Traditional-1 B. Modern-2	
Use of dresses after out-migration;	A. Traditional-1 B. Modern-2	
Languages known before migration;	A. Bengali-1 B. Hindi-2 C. English-3 D. Nepali-4 E. Urdu-5 F. Others (specify)	
Languages known after migration;	A. Bengali-1 B. Hindi-2 C. English-3 D. Nepali-4 E. Urdu-5 F. Manipuri-6 G. Khasi-7 H. Telegu-8 I. Others (specify)	
Do you think that moving from your place of birth or your home improved in Type of work?	A. Improved-1 B. Worsened-2 C. Remained the same-3	
Do you think that moving from your place of birth or your home improved in Your income?	A. Improved-1 B. Worsened-2 C. Remained the same-3	
What was the Skill level of migrant respondent before migration?	A. Skilled-1 B. Semi-skilled-2 C. Unskilled-3 D. Others-4	
What was Skill level of migrant respondents after migration?	A. Skilled-1 B. Semi-skilled-2 C. Unskilled-3 D. Others-4	
Do you think that moving from your place of birth or your home improved in access to housing?	A. Improved-1 B. Worsened-2 C. Remained the same-3	
What was /were the main difficulty/difficulties you have faced after you leaving your place of birth?	A. Shelter (house)-1 B. Food and related consumer items-2 C. Inability to obtain social services and other amenities-3 D. Inability to obtain job-4 E. Cultural difference-5 F. Faced no difficulties-6 G. Other (specify)-7	

What is/are the main problem(s) you are facing now? (You can select more than one)	A. Housing-1 B. Employment-2 C. Inadequate supply of consumer goods-3 D. Inadequate social services and amenities-4 E. Other (specify)-5	
In these difficulties do you want to change your working place or place of destination?	A. Yes-1 B. No-2	
If 'Yes', then Where do you want to move?	A. Another destination-1 B. Birth place or place of origin-2 C. Same place-3	

E. NREGS/MGNREGS RELATED QUESTIONS:

Q.1. Do you know about NREGS/MGNREGS?

Ans: Yes/No

Q.2. Status of MGNREGS

Ans: MGNREGS/NON-MGNREGS

Q.3. Do you have Job card ?

Ans: Yes/No

Q.4.Total number of job card holder in your family?

Ans:

Q.5. Have you receive any work under MGNREGS?

Ans: Yes/No

Q.6. Total number of days work received under the last financial year (out of 100 days)

Ans:

Q.7. How many times you have received work under MGNREGS? (frequency of work)

Ans:

Q.8.Wages (Rs) received under this scheme?

Ans:

Q.9. Working hours/day in MGNREGA (Hours)

Ans:

Q.10. Mode of payment of scheme?

Ans: Bank account/Post Office/Yet to be receive

Q.11.Types and nature of work in your villages?

Ans:

Q.12. Working distance from house (Km)

Ans:

Q.13. Satisfaction on number job cards (Statement: "I have needed more job cards")

Ans: Likert Scale 1 to 5 (*5 strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree*)

Q.14. Satisfaction of working days (Statement: "I have needed more working days")

Ans: Likert Scale 1 to 5 (*5 strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree*)

Q.15. Satisfaction for frequency of work (Statement: "I am satisfied with the frequency of work")

Ans: Likert Scale 1 to 5 (*5 strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree*)

Q.16. Satisfaction of Wages of MGNREGS (Statement: I think with the wages of MGNREGS should be increase)

Ans:Likert Scale 1 to 5 (*5 strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree*)

Q.17. Satisfaction of Working distance (Statement: "I am satisfied with working distance from home")

Ans: Likert Scale 1 to 5 (*5 strongly agree, 4 agree, 3 neutral, 2 disagree and 1 strongly disagree*)

Q.18. If, you are migrated from the origin, in the time of MGNREGA work are you return to your home?

Ans; Yes/No

Q.19. Any Comments or Suggestions:

Thank you for your kind collaboration for this investigation,

APPENDIX-II.A

Selection of sample Village and Number of Census Household in Koch Bihar district

Name of the Block	Name of the Village	Total Number of Census Household
Haldibari	Dakshin Pran Majumdaer	101
	Paschim Fate Mamud	492
	Chhoto Haldibari	638

	Bajejama Khasbas	135
Mekhliganj	Madhya Hudumdanga	1590
	Dakshin Hemkumari	115
	Andaran Kuchlibari	200
	Bhotbari	270
	Uttar Upanchauki Kuchlibari	138
	Kuchlibari	128
	Bara Kuchlibari	161
	Dhulia Khalisa	128
	Uttar Boknabandha	156
	Jamaldaha	524
Mathabhanga-I	Jore Simuli	1115
	Gopalpur	109
	Uchal Pukhari	149
	Jorpatki	1281
	Tekonia	226
Mathabhanga-II	Khalaigaon	295
	Phulbari	3122
	Dauguri	1227
	Sildanga	524
Koch Bihar-I	Paschim Moamari	1340
	Bhogdabari Kesharbari	723
	Paschim Haribhanga	429
	Chandamari	1781
	Shalbari	623
	Kursamari	109
	Chhota Nalangibari	488
	Jiranpur	732
Koch Bihar-II	Salmara	395
	Marichbari	3080
	Hatiduba	566
	Basantapur	287
	Madhupur	324
	Karisul	350
Tufanganj-I	Bilsi	573
	Deocharai	1988
	Shikarpur	567
	Chamta	1973
	Balabhut	2293
Tufanganj-II	Chengtimari	189
	Rasikbil	994
	Barakodali	1221

	Bhareya	635
Dinhata-I	Chhto Naldhondra	385
	Alokjhari	975
	Petla	1276
	Putimari	920
	Ghugumari	162
Dinhata-II	Saulmari	872
	Sahebganj	1514
	Khattimari	616
	Mirer Kuthi	342
	Silduar	477
	Bara Bagla	214
	Jatigara	395
	Chamta	2251
Sitalkuchi	Sitalkuchi	8607
	Mahismuri	1238
	Golenaohati	2315
	Sarbbeshwar Jayduar	800
	Gadopota	569
Total number of Household		58412

Source: Primary Census Abstract (PCA), Koch Bihar, 2011.

APPENDIX-II.B
Block-Wise Selection of Sample Households

Block	Household status		Total
	Non-migrant	Migrant	
Dinhata-I	8	16	24
Dinhata-II	0	24	24
Haldibari	0	10	10
Koch Bihar-I	10	32	42
Koch Bihar-II	20	14	34
Mathabhanga-I	4	16	20
Mathabhanga-II	6	28	34
Mekhliganj	6	18	24
Sitai	16	8	24
Sitalkuchi	38	52	90
Tufanganj-I	12	38	50
Tufanganj-II	6	16	22
Total	126	272	398

Source: Field Survey, 2017-2018

APPENDIX-II.C

Population Density of India, West Bengal and Koch Bihar District

Year	India	West Bengal	Koch Bihar
1901	972	945	881
1911	964	925	873
1921	955	905	877
1931	950	890	886
1941	945	852	879
1951	946	865	855
1961	941	878	890
1971	930	891	916
1981	934	911	935
1991	926	917	935
2001	933	934	948
2011	943	950	942

Source: Different Census of India

APPENDIX-III.A
District-Wise Male and Female Population, 2011

District	Total Population		
	Persons	Males	Females
Darjeeling	1846823	937259	909564
Jalpaiguri	3872846	1983064	1889782
Koch Bihar	2819086	1451542	1367544
Uttar Dinajpur	3007134	1551066	1456068
Dakshin Dinajpur	1676276	857199	819077
Maldah	3988845	2051541	1937304
Murshidabad	7103807	3627564	3476243
Birbhum	3502404	1790920	1711484
Barddhaman	7717563	3966889	3750674
Nadia	5167600	2653768	2513832
North 24-Parganas	10009781	5119389	4890392
Hugli	5519145	2814653	2704492
Bankura	3596674	1838095	1758579
Puruliya	2930115	1496996	1433119
Haora	4850029	2500819	2349210
Kolkata	4496694	2356766	2139928
South 24-parganas	8161961	4173778	3988183
Paschim Medinipur	5913457	3007885	2905572
Purba Medinipur	5095875	2629834	2466041
West Bengal	86779421	44452261	42327160

Source: Census of India, 2011

District-Wise Male and Female Distribution of Out-Migration, 2011

District	Total		
	Persons	Males	Females
Darjeeling	88208	31756	56452
Jalpaiguri	147607	40184	107423
Koch Bihar	173467	58257	115210
Uttar Dinajpur	82589	19769	62820
Dakshin Dinajpur	88223	22063	66160
Maldah	126927	40848	86079
Murshidabad	337162	103598	233564
Birbhum	240468	58127	182341
Barddhaman	570872	139813	431059
Nadia	4,84,880	1,51,194	3,33,686
North 24-Parganas	365399	96843	268556
Hugli	448505	100146	348359
Bankura	308937	75363	233574
Puruliya	113202	28695	84507
Haora	312603	86038	226565
Kolkata	1238975	561410	677565
South 24-parganas	300977	99751	201226
Paschim Medinipur	335561	87374	248187
Purba Medinipur	185045	51734	133311

Source: Census of India, 2011

APPENDIX-III.C

District-Wise Distribution of Rural and Urban Out-Migration, 2011

District	Rural			Urban		
	Persons	Males	Females	Persons	Males	Females
Darjeeling	27566	6412	21154	60642	25344	35298
Jalpaiguri	84365	16061	68304	63242	24123	39119
Koch Bihar	84883	20217	64666	88584	38040	50544
Uttar Dinajpur	52520	8183	44337	30069	11586	18483
Dakshin Dinajpur	52479	7409	45070	35744	14654	21090
Maldah	76471	20469	56002	50456	20379	30077
Murshidabad	204308	43625	160683	132854	59973	72881
Birbhum	141891	22146	119745	98577	35981	62596
Barddhaman	331528	52800	278728	239344	87013	152331
Nadia	2,18,477	47,036	1,71,441	2,66,403	1,04,158	1,62,245
North 24-Parganas	168368	30771	137597	197031	66072	130959
Hugli	240894	35960	204934	207611	64186	143425
Bankura	176070	21540	154530	132867	53823	79044
Puruliya	62485	9237	53248	50717	19458	31259
Haora	122548	18926	103622	190055	67112	122943
Kolkata	154488	57574	96914	1084487	503836	580651

South 24-parganas	102292	17892	84400	198685	81859	116826
Paschim Medinipur	194558	22004	172554	141003	65370	75633
Purba Medinipur	118438	19031	99407	66607	32703	33904

Source: Census of India, 2011, Migration D-Series

APPENDIX-III.D

District-Wise Male and Female Distribution of In-Migration, 2011

District	Total		
	Persons	Males	Females
Darjiling	118300	48160	70140
Jalpaiguri	248864	88216	160648
Koch Bihar	87110	16840	70270
Uttar Dinajpur	127201	38322	88879
Dakshin Dinajpur	70943	14265	56678
Maldah	89491	19848	69643
Murshidabad	229507	44248	185259
Birbhum	205845	42424	163421
Barddhaman	667558	194432	473126
Nadia	366282	98476	267806
North Twenty Four Parganas	1369398	579848	789550
Hugli	627460	191912	435548
Bankura	225233	32612	192621
Puruliya	85815	12356	73459
Haora	356324	114327	241997
Kolkata	315571	138066	177505
South Twenty Four Parganas	472772	168660	304112
Paschim Medinipur	268393	43830	224563
Purba Medinipur	190268	34464	155804

Source: Census of India, 2011, Migration D-Series

APPENDIX-III.E

District-Wise Distribution of Rural and Urban In-Migration, 2011

District	Rural			Urban		
	Persons	Males	Females	Persons	Males	Females
Darjiling	45261	15928	29333	73039	32232	40807
Jalpaiguri	106337	26466	79871	142527	61750	80777
Koch Bihar	64442	9824	54618	22668	7016	15652
Uttar Dinajpur	88833	23090	65743	38368	15232	23136
Dakshin Dinajpur	52253	8638	43615	18690	5627	13063
Maldah	59712	8314	51398	29779	11534	18245
Murshidabad	164561	23537	141024	64946	20711	44235
Birbhum	155905	24779	131126	49940	17645	32295
Barddhaman	360607	77320	283287	306951	117112	189839
Nadia	213751	46024	167727	152531	52452	100079
North Twenty Four Parganas	188252	41063	147189	1181146	538785	642361
Hugli	276734	53873	222861	350726	138039	212687
Bankura	197814	25285	172529	27419	7327	20092

Puruliya	61978	6110	55868	23837	6246	17591
Haora	89425	14766	74659	266899	99561	167338
Kolkata	0	0	0	315571	138066	177505
South Twenty Four Parganas	202581	51699	150882	270191	116961	153230
Paschim Medinipur	208878	23880	184998	59515	19950	39565
Purba Medinipur	139407	15164	124243	50861	19300	31561

Source: Census of India, 2011, Migration D-Series

APPENDIX-III.F

SCs and STs Rural Out-Migration to District Total Population in West Bengal, 2011

District		SC			ST		
	TP	TOM	MOM	FOM	TOM	MOM	FOM
Darjiling	1846823	7974	1541	6433	4239	972	3267
Jalpaiguri	3872846	41595	7042	34553	7152	2064	5088
Koch Bihar	2819086	46164	10567	35597	2167	397	1770
Uttar Dinajpur	3007134	20134	3143	16991	5191	715	4476
Dakshin Dinajpur	1676276	19101	2255	16846	7202	1041	6161
Maldah	3988845	17770	3697	14073	6715	1347	5368
Murshidabad	7103807	47519	9183	38336	4880	1050	3830
Birbhum	3502404	40366	6015	34351	5404	994	4410
Barddhaman	7717563	97414	14110	83304	20285	2697	17588
Nadia	5167600	71014	16361	54653	7974	1298	6676
North Twenty Four Parganas	10009781	63215	12727	50488	9006	1129	7877
Hugli	5519145	73410	9890	63520	15396	1830	13566
Bankura	3596674	46175	5719	40456	23311	2931	20380
Puruliya	2930115	13025	1984	11041	16130	2853	13277
Haora	4850029	30378	3805	26573	1013	189	824
Kolkata	4496694	35893	12153	23740	1184	372	812
South Twenty Four Parganas	8161961	33505	5463	28042	9420	1404	8016
Paschim Medinipur	5913457	40236	3847	36389	14517	2117	12400
Purba Medinipur	5095875	20941	2580	18361	3891	424	3467

TROM[a]–Total Rural Out-Migration, MROM[b]-Male Rural Out-Migration , FROM[c]-Female Rural Out-Migration

Source: Primary Census Abstract, West Bengal, 2011 and Census of India Migration D-Series; SC and ST Tables, 2011

APPENDIX-III.G

District-Wise Distribution of Rural SC Population and SC Rural Out-Migration in West Bengal, 2011

District	SC Population			SC Out-Migration		
	TRP	RM	RF	TROM	MROM	FROM
Darjiling	224822	114866	109956	7974	1541	6433
Jalpaiguri	1159391	597567	561824	41595	7042	34553
Koch Bihar	1350657	696254	654403	46164	10567	35597
Uttar Dinajpur	741154	383329	357825	20134	3143	16991
Dakshin Dinajpur	440182	226420	213762	19101	2255	16846

Maldah	767492	396637	370855	17770	3697	14073
Murshidabad	727721	373388	354333	47519	9183	38336
Birbhum	934054	478901	455153	40366	6015	34351
Barddhaman	1524133	776238	747895	97414	14110	83304
Nadia	1141341	590538	550803	71014	16361	54653
North Twenty Four Parganas	1252699	646150	606549	63215	12727	50488
Hugli	1053739	532867	520872	73410	9890	63520
Bankura	1105653	559234	546419	46175	5719	40456
Puruliya	490517	251410	239107	13025	1984	11041
Haora	407815	207531	200284	30378	3805	26573
South Twenty Four Parganas	2062297	1061324	1000973	33505	5463	28042
Paschim Medinipur	1034177	523162	511015	40236	3847	36389
Purba Medinipur	677263	348478	328785	20941	2580	18361

TROM[a]–Total Rural Out-Migration, MROM[b]-Male Rural Out-Migration , FROM[c]-Female Rural Out-Migration

Source: Primary Census Abstract, West Bengal, 2011 and Census of India Migration D-Series; SC and ST Tables, 2011

APPENDIX-III.H

District-Wise Distribution of Rural ST Population and ST Rural Out-Migration in

West Bengal, 2011

District	ST Population			ST Out-Migration		
	TRP	RM	RF	TROM	MROM	FROM
Darjiling	319069	158918	160151	4239	972	3267
Jalpaiguri	690312	345035	345277	7152	2064	5088
Koch Bihar	16872	8735	8137	2167	397	1770
Uttar Dinajpur	158377	79631	78746	5191	715	4476
Dakshin Dinajpur	267913	134311	133602	7202	1041	6161
Maldah	307625	154156	153469	6715	1347	5368
Murshidabad	86004	43527	42477	4880	1050	3830
Birbhum	232666	115022	117644	5404	994	4410
Barddhaman	379262	188349	190913	20285	2697	17588
Nadia	120300	60954	59346	7974	1298	6676
North Twenty Four Parganas	196920	99676	97244	9006	1129	7877
Hugli	211620	104347	107273	15396	1830	13566
Bankura	365380	181734	183646	23311	2931	20380
Puruliya	531822	267382	264440	16130	2853	13277
Haora	4025	2075	1950	1013	189	824
South Twenty Four Parganas	89889	45554	44335	9420	1404	8016
Paschim Medinipur	853031	426541	426490	14517	2117	12400
Purba Medinipur	24028	12110	11918	3891	424	3467

Source: Primary Census Abstract, West Bengal, 2011 and Census of India Migration D-Series; SC and ST Tables, 2011

APPENDIX-III.I

Percentage of Out-Migration in State/Union Territories in India

State/U.T.	Rural Out-Migration		Urban Out-Migration	
	Male %	Female %	Male	Female
Andhra Pradesh	9.9	17.3	5.9	9.4
Arunachal Pradesh	5.1	2.1	3.9	1.1
Assam	4.3	4.9	3.8	4.5
Bihar	10.8	6.5	6.2	4.8
Chhattisgarh	4.4	9.3	3.7	10.6
Delhi	0.1	7	0.5	4.4
Goa	4.5	3.3	4.5	3.7
Gujarat	5.6	20.5	3.7	11.7
Haryana	5.1	33.8	3.3	23.6
Himachal Pradesh	20.8	32.4	8.8	24.5
Jammu & Kashmir	5.6	11.5	3	7.9
Jharkhand	5.6	2.9	5.8	3.4
Karnataka	8	15.7	3.9	6
Kerala	23.3	30.2	21.5	24.7
Madhya Pradesh	3.9	14.6	3	9.5
Maharashtra	9.3	24.4	4.2	12.4
Manipur	5.1	2.1	3.6	2.3
Meghalaya	3.5	2	2.3	1.4
Mizoram	4.3	3.8	5.8	4.3
Nagaland	6.3	8.3	5.5	4.9
Orissa	11.2	10.7	7.3	9.4
Punjab	6.2	17	3.4	10.9
Rajasthan	10.4	24	6.2	19.9
Sikkim	7	9.3	13.8	13.3
Tamil Nadu	10.5	11.1	7.3	5.8
Tripura	3.5	3.3	4.7	3
Uttarakhand	16.6	20.7	6.3	10.6
Uttar Pradesh	11.6	19.1	5	12.6
West Bengal	6.9	17.9	4.2	15.4
A & N Islands	12.8	17.9	6.1	7.8
Chandigarh	0.2	0.3	3.4	6.2
Dadra & Nagar Haveli	1.7	5.4	1.4	3.1
Daman & Diu	2.8	5.2	6.1	9.7
Lakshadweep	14.4	9.5	21.2	8.7
Puducherry	6.9	2	8.6	2.8

Source:NSS Report No. 533: Migration in India: July, 2007-June, 2008

APPENDIX-III.J
Distribution Rural Out-Migration Flow in India

Rural Male+Female	Migration Flow (%)			
Name of State/UT/all	Within the same district	Another district	Within the same state	Another state
Andhra Pradesh	53.8	32	85.8	9.8
Arunachal Pradesh	60.5	23.7	84.3	14.4
Assam	44.4	40	84.5	15.5
Bihar	21.1	14.8	35.9	62.3
Chhattisgarh	53.9	27.5	81.4	17.9
Delhi	30.8	1.7	32.5	66.7
Goa	53.6	6.3	59.9	23.2
Gujarat	58.1	36.1	94.2	4.4
Haryana	30.2	39.5	69.8	29.1
Himachal Pradesh	53.5	17.3	70.8	28.4
Jammu & Kashmir	62.9	18.6	81.5	17.9
Jharkhand	25.9	19.7	45.6	53.5
Karnataka	51.6	34.8	86.3	12.8
Kerala	47	17.8	64.8	14.8
Madhya Pradesh	57.9	31.3	89.2	10.5
Maharashtra	51.8	42	93.8	5.7
Manipur	25.9	40.1	66	33.8
Meghalaya	40.1	40.5	80.6	17.9
Mizoram	46.5	39.8	86.3	13.7
Nagaland	46.1	44.2	90.4	9.5
Orissa	40.9	23.3	64.3	35.1
Punjab	43.6	26.7	70.3	12.3
Rajasthan	49.5	25.2	74.7	23.4
Sikkim	44.9	33.4	78.3	19.7
Tamil Nadu	37.5	42	79.5	12.3
Tripura	51.2	24.5	75.7	20.9
Uttarakhand	38.6	17.1	55.8	43.6
Uttar Pradesh	36.5	25.7	62.3	35.9
West Bengal	**59.5**	**22.5**	**82**	**17.2**
Andaman & Nicobar Islands	55.5	27.6	83	16.8
Chandigarh	0	0	0	85.8
Dadra & Nagar Haveli	29.9	56.4	86.3	13.1
Daman & Diu	20.6	1	21.6	47.3
Lakshadweep	76.8	0	76.8	23.2
Puducherry	48.9	0.6	49.5	40.6
India	**45.2**	**28.2**	**73.4**	**23.3**

Source:NSS Report No. 533: Migration in India: July, 2007-June, 2008

APPENDIX-III.K
Percentage Distribution of Causes of Rural Male out-migration in India

State/U.T../ all-India	Employment-related reasons	Studies	Forced migration	Marriage	Movement of parent/ earning member	Others	Total
Andhra Pradesh	62.1	23.9	0.1	1.2	9.4	3.1	100
Arunachal Pradesh	74.5	17.7	0	1.5	0.6	2.7	100
Assam	94.9	1.4	0.1	0.8	2.5	0.3	100
Bihar	88.1	2.5	0	0.6	5.8	2.2	100
Chhattisgarh	71.8	8	0	1.1	15.8	2.6	100
Delhi	100	0	0	0	0	0	100
Goa	83.2	12.2	0	0	2.5	0	100
Gujarat	73.3	10.3	0.1	2.1	12.8	1.1	100
Haryana	70.4	6.5	0	3.8	16.5	2.6	100
Himachal Pradesh	77.8	13	0	0.6	3.9	3.2	100
Jammu & Kashmir	90.5	0.6	0.4	0.7	4	3.5	100
Jharkhand	82.6	8.9	0	0	6.4	1.1	100
Karnataka	76.3	13.2	1.7	0.5	4.9	2.8	100
Kerala	73.5	5.3	0.2	2.5	6.1	12.4	100
Madhya Pradesh	70.2	12.9	0.1	2.1	10	1.8	100
Maharashtra	73.1	11.4	0.3	1.3	10.4	2.2	100
Manipur	77.1	18	0.1	0.4	1.2	2.8	100
Meghalaya	51.6	35	0.4	10.3	0	1.7	100
Mizoram	79.5	17.4	0	2.7	0	0.4	100
Nagaland	74.1	23.7	0	1.2	0	1.1	100
Orissa	87.2	4.5	0	0.6	5.8	1.5	100
Punjab	83.1	5.9	0	2	4.8	3.9	100
Rajasthan	80.2	8.1	0.1	0.6	8.4	2.1	100
Sikkim	61.1	34.6	0	1.1	0.9	2.2	100
Tamil Nadu	84.4	9.3	0	1.8	3.4	1.1	100
Tripura	90.2	2.7	0.1	2.5	2.1	1.8	100
Uttarakhand	84.4	5	0	0.6	8.4	1.1	100
Uttar Pradesh	82.5	4.4	0	0.6	9.7	1.7	100
West Bengal	89.4	3.2	0	1.6	1.8	3.9	100
A & N Islands	46.3	19.6	0	1.4	13.3	18.2	100
Chandigarh	100	0	0	0	0	0	100
Dadra & Nagar Haveli	75.8	0	0	0	24.1	0	100
Daman & Diu	79.1	15.9	0	0	5	0	100
Lakshadweep	68.4	10.9	0	0	8.6	12.1	100
Puducherry	50.9	20	6.6	22.4	0	0	100
all-India	79.9	7.8	0.1	1.1	7.6	3	100

Source:NSS Report No. 533: Migration in India: July, 2007-June, 2008

APPENDIX-III.L
Percentage of Causes of Rural Female out-migration in India

State/U.T./ all-India	Employment-related reasons	Studies	Forced migration	Marriage	Movement of parent/ earning member	Others	Total
Andhra Pradesh	2.6	7.4	0	76.8	12.1	0.9	100
Arunachal Pradesh	26.2	32.7	0	33.1	4.1	3.9	100
Assam	2.1	0.4	0.1	87.1	9.3	0	100
Bihar	1.3	1.1	0.1	78.4	18.5	0.4	100
Chhattisgarh	11	1.1	0	70.7	14.1	2.1	100
Delhi	0	0	0	100	0	0	100
Goa	17.4	2.4	0	67.9	9.7	0	100
Gujarat	1.1	1.7	0.4	86.3	9.4	1	100
Haryana	0.9	1.3	0.2	92.2	4.3	0.9	100
Himachal Pradesh	1.8	3.6	0.3	84.3	8.5	1.1	100
Jammu & Kashmir	0	0.1	0	95.4	3.1	1.3	100
Jharkhand	13.7	12.1	0	52.5	19.1	2.2	100
Karnataka	5.2	2.6	0.6	84.6	4.9	2	100
Kerala	4.5	3	0.3	77.1	9.4	5.7	100
Madhya Pradesh	2	1.9	0	86.6	8.1	0.7	100
Maharashtra	3.7	2.2	0	84.7	8.3	1	100
Manipur	27	27.4	0	27.1	14.1	4.3	100
Meghalaya	39.2	54.2	0.1	5.6	0.9	0	100
Mizoram	22.4	23.3	0.3	52.3	1	0.7	100
Nagaland	10.6	5.2	0.1	82.4	1	0.7	100
Orissa	2.2	4.2	0	78.5	12.9	1.8	100
Punjab	1.6	1.1	0.8	91.3	3.9	1.2	100
Rajasthan	1.1	1.3	0	87.8	8.8	0.9	100
Sikkim	5.2	21.2	0	68.2	2.5	2.9	100
Tamil Nadu	5	3.9	0	83	7	1	100
Tripura	5.4	0.5	0	83.8	6.4	3.5	100
Uttarakhand	1.6	3.4	0	79.5	14.5	0.8	100
Uttar Pradesh	0.9	1	0.1	83.5	13.1	1.1	100
West Bengal	1.3	0.2	0	94.7	2.4	0.9	100
A & N Islands	6.8	24.8	0	39.6	25.1	3.7	100
Chandigarh	15.7	0	0	84.3	0	0	100
Dadra & Nagar Haveli	0	0	0	50.7	49.3	0	100
Daman & Diu	0	0	0	88.8	11.2	0	100
Lakshadweep	30.1	9.1	0	7.3	34.5	19	100
Puducherry	8.4	0	0	91.7	0	0	100
all-India	2.3	2.2	0.1	84.3	9.5	1.2	100

Source:NSS Report No. 533: Migration in India: July, 2007-June, 2008

Calculation of Z-Score showing Balance of Rural Male Out-Migration of West Bengal

District	Males(X)	X-X̄	(X-X̄)²	Z=(X-X̄)/S.D
Darjeeling	-0.4	-0.63	0.39	-0.53
Jalpaiguri	-0.61	-0.84	0.7	-0.71
Koch Bihar	2.06	1.83	3.36	1.55
Uttar Dinajpur	-0.35	-0.58	0.33	-0.49
Dakshin Dinajpur	-0.86	-1.09	1.18	-0.92
Maldah	2.46	2.23	4.98	1.89
Murshidabad	1.85	1.62	2.63	1.37
Birbhum	-0.89	-1.12	1.25	-0.95
Barddhaman	-0.68	-0.91	0.83	-0.77
Nadia	1.02	0.79	0.63	0.67
North 24-Parganas	-0.75	-0.98	0.96	-0.83
Hugli	-0.67	-0.9	0.81	-0.76
Bankura	-0.85	-1.08	1.16	-0.91
Puruliya	1.51	1.28	1.64	1.08
Haora	1.28	1.05	1.11	0.89
South 24-parganas	-0.35	-0.58	0.33	-0.49
Paschim Medinipur	-0.92	-1.15	1.32	-0.97
Purba Medinipur	1.26	1.03	1.06	0.87

Source: Census of India, 2011, Migration D-Series

Data have been computed by the researcher.

Arithmetic Mean $(\bar{X}) = \sum X/N$ (Where, X=Individual Value, N=Number of Observation)

=4.11/18

=0.23

Standard Deviation (S.D) $= \sqrt{(X-\bar{X})^2/N}$

$= \frac{\sqrt{24.68}}{18}$

=1.18

Calculation of Z-Score showing Balance of Rural Female Out-Migration of West Bengal

District	Females(X)	X-X̄	(X-X̄)²	Z=(X-X̄)/S.D
Darjeeling	-0.72	-0.54	0.29	-0.79
Jalpaiguri	-0.86	-0.68	0.46	-0.99
Koch Bihar	1.18	1.36	1.86	2.00
Uttar Dinajpur	-0.67	-0.49	0.24	-0.72
Dakshin Dinajpur	1.03	1.21	1.47	1.78
Maldah	1.09	1.27	1.62	1.87
Murshidabad	1.14	1.32	1.75	1.94
Birbhum	-0.91	-0.73	0.53	-1.07
Barddhaman	-0.98	-0.80	0.64	-1.17
Nadia	1.02	1.20	1.45	1.76
North 24-Parganas	-0.93	-0.75	0.56	-1.10
Hugli	-0.92	-0.74	0.54	-1.08
Bankura	-0.9	-0.72	0.52	-1.05
Puruliya	-0.95	-0.77	0.59	-1.13
Haora	1.39	1.57	2.47	2.31
South 24-parganas	-0.56	-0.38	0.14	-0.55
Paschim Medinipur	-0.93	-0.75	0.56	-1.10
Purba Medinipur	-0.8	-0.62	0.38	-0.91

Source: Census of India, 2011, Migration DSeries
Data have been computed by the researcher.
Arithmetic Mean $(\bar{X}) = \sum X/N$ (Where, X=Individual Value, N=Number of Observation)

$$= -3.28/18 = -0.18$$

Standard Deviation $(S.D) = \sqrt{(X-\bar{X})^2/N}$

$$= \frac{\sqrt{16.05}}{18}$$

$$= 0.68$$

Calculation of Location Quotient (L.Q) for Male Rural Out-Migration in Koch Bihar District

District	Total(Xi)	Male(Yi)	Ratio of Male to Total Migrants(Yi/Xi)	∑Yi/ ∑Xi	L.Q=(Yi/Xi)/ (∑Yi/∑Xi)
Dinhata-I	16	10	0.63		0.71
Dinhata-II	24	22	0.92		1.05
Haldibari	10	8	0.80		0.91
Koch Bihar-I	32	30	0.94		1.07
Koch Bihar-II	14	14	1.00		1.14
Mathabhanga-I	16	14	0.88	0.88	1.00
Mathabhanga-II	28	28	1.00		1.14
Mekhliganj	18	14	0.78		0.89
Sitai	8	8	1.00		1.14
Sitalkuchi	52	46	0.88		1.01
Tufanganj-I	38	34	0.89		1.02
Tufanganj-II	16	10	0.63		0.71
	∑Xi=272	∑Yi=238			

Source: Field Survey, 2017-2018.

Data have been computed by the researcher.

Calculation of Location Quotient (L.Q) for Female Rural Out-Migration in Koch Bihar District

District	Total(Xi)	Female(Yi)	Ratio of Female to Total Migrants(Yi/Xi)	∑Yi/ ∑Xi	L.Q=(Yi/Xi)/(∑Yi/∑Xi)
Dinhata-I	16	6	0.38		3.00
Dinhata-II	24	2	0.08		0.67
Haldibari	10	2	0.20		1.60
Koch Bihar-I	32	2	0.06		0.50
Koch Bihar-II	14	0	0.00		0.00
Mathabhanga-I	16	2	0.13	0.13	1.00
Mathabhanga-II	28	0	0.00		0.00
Mekhliganj	18	4	0.22		1.78
Sitai	8	0	0.00		0.00
Sitalkuchi	52	6	0.12		0.92
Tufanganj-I	38	4	0.11		0.84
Tufanganj-II	16	6	0.38		3.00
	∑Xi=272	∑Yi=34			

Source: Field Survey, 2017-2018.
Data have been computed by the researcher.

Block-Wise Calculation of Index of Satisfaction of Rural Out-Migration in Koch Bihar District

Satisfaction of Sanitation facility at the Destination

Block	Respondents Status		Total (N)	$IS = \dfrac{(fs - fd)}{N}$
	Satisfied (fs)	Dissatisfied (fd)		
Dinhata-I	14	2	16	0.75
Dinhata-II	12	12	24	0.00
Haldibari	10	0	10	1.00
Koch Bihar-I	2	30	32	-0.88
Koch Bihar-II	12	2	14	0.71
Mathabhanga-I	10	6	16	0.25
Mathabhanga-II	2	26	28	-0.86
Mekhliganj	2	16	18	-0.78
Sitai	8	0	8	1.00
Sitalkuchi	6	46	52	-0.77
Tufanganj-I	24	14	38	0.26
Tufanganj-II	2	14	16	-0.75
Total	104	168	272	-0.24

Source: Field Survey, 2017-2018, Data have been computed by the researcher.

Satisfaction of Drinking water facility at the Destination

Block	Respondents Status		Total (N)	$IS = \dfrac{(fs - fd)}{N}$
	Satisfied (fs)	Dissatisfied (fd)		
Dinhata-I	6	10	16	-0.25
Dinhata-II	6	18	24	-0.50
Haldibari	4	6	10	-0.20
Koch Bihar-I	4	28	32	-0.75
Koch Bihar-II	0	14	14	-1.00
Mathabhanga-I	4	12	16	-0.50
Mathabhanga-II	0	28	28	-1.00
Mekhliganj	12	6	18	0.33
Sitai	4	4	8	0.00
Sitalkuchi	0	52	52	-1.00
Tufanganj-I	10	28	38	-0.47
Tufanganj-II	6	10	16	-0.25
Total	56	216	272	-0.59

Source: Field Survey, 2017-2018

Data have been computed by the researcher.

Satisfaction of Types of Job at the Destination

| Block | Respondents Status | | Total (N) | $IS = \dfrac{(fs - fd)}{N}$ |
	Satisfied (fs)	Dissatisfied (fd)		
Dinhata-I	14	2	16	0.75
Dinhata-II	6	18	24	-0.50
Haldibari	10	0	10	1.00
Koch Bihar-I	4	28	32	-0.75
Koch Bihar-II	12	2	14	0.71
Mathabhanga-I	8	8	16	0.00
Mathabhanga-II	12	16	28	-0.14
Mekhliganj	10	8	18	0.11
Sitai	8	0	8	1.00
Sitalkuchi	42	10	52	0.62
Tufanganj-I	14	24	38	-0.26
Tufanganj-II	14	2	16	0.75
Total	154	118	272	0.13

Source: Field Survey, 2017-2018

Data have been computed by the researcher.

Satisfaction on Monthly income at the Destination

| Block | Respondents Status | | Total (N) | $IS = \dfrac{(fs - fd)}{N}$ |
	Satisfied (fs)	Dissatisfied (fd)		
Dinhata-I	14	2	16	0.75
Dinhata-II	24	0	24	1.00
Haldibari	8	2	10	0.60
Koch Bihar-I	8	24	32	-0.50
Koch Bihar-II	12	2	14	0.71
Mathabhanga-I	14	2	16	0.75
Mathabhanga-II	12	16	28	-0.14
Mekhliganj	18	0	18	1.00
Sitai	6	2	8	0.50
Sitalkuchi	42	10	52	0.62
Tufanganj-I	32	6	38	0.68
Tufanganj-II	8	8	16	0.00
Total	198	74	272	0.46

Source: Field Survey, 2017-2018

Data have been computed by the researcher.

Satisfaction on Overall Work of MGNREGS in the District

Block	Respondents Status		Total	$IS = \dfrac{(fs - fd)}{N}$
	Satisfied (fs)	Dissatisfied (fd)		
Dinhata-I	0	16	16	-1.00
Dinhata-II	0	24	24	-1.00
Haldibari	0	10	10	-1.00
Koch Bihar-I	2	30	32	-0.88
Koch Bihar-II	9	5	14	0.29
Mathabhanga-I	4	12	16	-0.50
Mathabhanga-II	2	26	28	-0.86
Mekhliganj	0	18	18	-1.00
Sitai	4	4	8	0.00
Sitalkuchi	30	22	52	0.15
Tufanganj-I	20	18	38	0.05
Tufanganj-II	8	8	16	0.00
Total	79	193	272	-0.42

Source: Field Survey, 2017-2018

Data have been computed by the researcher.

APPENDIX-IV

Abbreviations

ANC	Antenatal Care
ASMR	Age Specific Migration Rate
BAD	Border Adjacent District
BM	Balance of Migration
BMI	Body Mass Index
BPL	Below Poverty Line
CBR	Crude Birth Rate
CD Block	Community Development Block
CTs	Census Towns
FAO	Food and Agriculture Organization
FY	Financial Year
GIS	Geographic Information System
GoI	Government of India
HDI	Human Development Index
HH	Household
HHI	Household Industry
IAY	Indira Awas Yojana
IDP	Internally Displaced Persons
ILO	International labour Organisation
IRS	Indian Remote Sensing Satellite
IS	Index of Satisfaction
ISRO	Indian Space Research Organisation
LULC	Land Use and Land Cover
MART	Maharashtra State Agriculture And Rural Tourism
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MGNREGS	Mahatma Gandhi National Rural Employment Guarantee Scheme
MI	Migration Index
MSL	Mean Sea Level
NCRL	National Commission on Rural Labour
NFHS	National Family Health Survey
NGOs	Non-Governmental Organisations
NRLM	National Rural Livelihood Mission
NSSO	National Sample Survey Organisation
OBC	Other Backward Class
OECD	The Organisation of Economic Cooperation and Development
OLI	Operational Land Imager
OMR	Out-Migration Rate
OR	Odds Ratio
PCA	Primary Census Abstract

POB	Place of Birth
POLR	Place of Last Residence
PURA	Providing Urban Facilities in Rural Areas
S.D.	Sub Division
SC	Scheduled Caste
SGSY	Swarna Jayanti Gram Swarojgar Yojana
SHGs	Self Help Groups
SoRS	Schedule of Rates
ST	Scheduled Tribe
STs	Statutory Towns
TFR	Total Fertility Rate
TOM	Total Out-Migration
U.A.E.	United Arab Emirates
UK	United Kingdom
UN	United Nations
UNDESA	United Nations Development of Economic and Social affairs
UNESCAP	United Nations Economic and Social Commission for Asia and the Pacific
UNICEF	United Nations Children's Fund
USA	Unite States of America
USDA	United States Department of Agriculture
UT	Union Territories

APPENDIX-V

List of the Publications

Barman, B., & Roy, R. (2019). Nature and Characteristics of Rural Labour Out-Migration: A Case Study of Sitalkuchi Block in Koch Bihar District, West Bengal. *Thematics Journal of Geography*, 8(4), 725-737.

Barman, B., & Roy, R. (2020). Assessment of Mahatma Gandhi Rural Employment Guarantee Scheme (MGNREGS) on Rural Out-migration in Koch Bihar District, West Bengal: A Multivariate Analysis.Socio-Economic Development and Environmental Sustainability: The Indian Perspective edited by R. Sarkar, *Namya Press*, 215-235, ISBN 978-93-90124-61-9.

Nature and Characteristics of Rural Labour Out-Migration: A Case Study of Sitalkuchi Block in Koch Bihar District, West Bengal

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Abstract

Migration from one place to another in search of improved livelihoods is a key feature of human history. There are different streams of migration generally relating to the degree of economic and social development in the area of origin as well as area of destination. In the rural areas of West Bengal lack of job opportunities is the main reason for labour out-migration. The landless poor people who mostly belong to lower castes, indigenous communities and economically backward regions constitute the major portion of migrants. The labour out-migration occurred in two ways viz. short-term migration and long-term migration. These migrant labourers visited in industrial, brick kilns, stone quarrying, plantations, construction, and rice mills etc. for their livelihood. This paper reveals nature and characteristics of rural labour out-migration scenario in the CD-block Sitalkuchi in Koch Bihar district in West Bengal.

Key Words: 1.Labour Out-Migration, 2.Migration Streams, 3.Duration, 4.Origin, 5.Destination.

1. Introduction:

Migration is a major demographic process that has been an integral and salient feature of human history. It has been an important means by which human civilization has spread out, enriching clusters, disseminating ideas and generating social, political and economic changes at the place of origin and of destination (Sekher, 1997). Rural out-migration is a movement of rural people from one geographical region to another region for different reasons and it is a permanent or semi-permanent change of residence (Lee, 1966). In the developing countries like India, the rural out- migration is a common livelihood strategy and important form of population redistribution. The movement of people from one place to another is called migration. According to Dictionary of Geography "the terms in-migration and out-migration are used for internal migration, where no national boundaries are crossed, and the simplest classification separate from international migration". In the study of migration the worker who migrates in order to find employment they are called migrant labour. Migration may be temporary or permanent and over long or short distances, often involving movement across international frontiers. There are many examples in the contemporary world of economies which have come to relay to a significant extent upon migrant labour. Historically the movement of labour has been crucial to economic growth and cultural change. Migration has become a universal phenomenon in modern times. Due to the expansion of transport and communication, it has become a part of worldwide process of urbanization and industrialization. Analysis of labour migration is important to understand the people's movement within the country as a response to changes in economic, political and cultural factors (Singh, 1986).The labour out-migration is mostly influenced by social structures and pattern of development. Uneven development is the main cause of out-migration along with factors like lack of unemployment, poverty, landlessness, family pressure etc. In different reasons from the peoples of the rural areas decide to migrate to relatively prosperous areas in search of better employment and income (Kaur, Singh, Garg, Singh, & Singh, 2011). This study has been done on the CD-block Sitalkuchi of Koch Bihar district. This survey reveals that most of the agricultural family have no needed the agricultural labour; they completed their work by their family members. So it is common to labour migration from the villages of the block. Labour migration is complex. Streams differ in duration, origin, destination and migrant characteristics. Economic and social impacts on migrants and their families are variable. Migration often involves longer working hours, poor living and working conditions, social isolation and poor access to basic amenities (Srivastava and Sasikumar, 2003).

2. Profile of the cd block:

The study area is Sitalkuchi block which is located in Koch Bihar district of West Bengal. Southern part of the block is bounded by Indo-Bangladesh border. This is one of the Community Development block (CD-Block) of Koch Bihar situated from 57 km. from district headquarters. The latitudinal and longitudinal extension covers $26^0 3'15''$ N to $26^0 18'15''$N and $89^0 4'40''$E to $89^0 19'30''$E. This block is under Mathabhanga Subdivision. The block consists 8 G.Ps (*Gram Panchayets*) namely Sitalkuchi, Lalbazar, Khalisamari, Gosairhat, Golenoahati, Chhotosalbari, Bhawerthana and Barakaimari (Map 1). This block mainly covers the rural area. The total area of the block is 101.53 sq. km. The present study shows that the block consists of 42,587 households with total population of 1, 85,353 of which 94,277 are male and 91,076 female (Census of India, 2011). The economy of the block is mainly agrarian. There is no significant industry in the block. In the study area most of the respondents are engaged in primary economic activities and most of them are landless poor people. These majorities of the landless poor people's are engaged in daily or contract labours. Agricultural activities in the block are characterised by traditional farming systems with intensive use human labours. The excessive pressure of population on agricultural sectors with continuous fragmentation of land holdings has intensified the numbers of disguise unemployment in the block. As a consequence, lack of employment opportunities among the people forced them to out-migration to urban areas. In this regard from the sample study we observed that the majority percentage of the respondents from the rural areas have decided to migrate to another region in search of better employment and income. The present study reveals on the field survey and personal interviews with the respondents of seven villages namely *Sitalkuchi, Mahismuri, Golenaohati, Sarbbeswar Jayduar, Bahir Thana, Gadopota and Bara Maricha (map 1).*
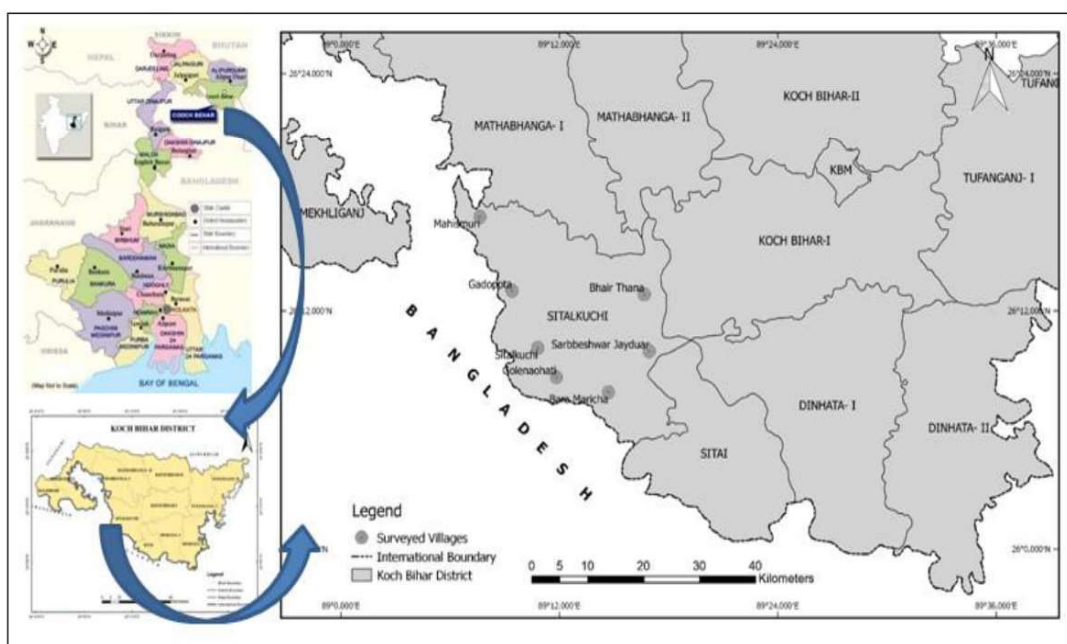
Map 1. Location Map of the Study Area

3. Objectives of the study: This study has following objectives;

    i.   To identify the causes of rural labour out-migration,
    ii.   To identify the streams of rural labour out-migration, and
    iii.   To identify the nature and characteristics of rural out-migration.

4. Methodology:

In order to fulfil the above mentioned objectives, the study has been carried on primary data and secondary data. The primary data have been collected from the seven randomly selected villages of Sitalkuchi. The survey is based on purposive random sampling method of 235 households. The sample survey was supplemented by in-depth interviews with a few migrant workers, employers and local labour. The data has been analysed by using cartographic and statistical tools and techniques. The rate of out-migration is very useful to measure of intensity of out-migration of a population. The out-migration rate is the ratio of total volume of migration during a specific period and the total population (Wunch and Temote, 1978; Narayan and Singh, 2015). The formula for identifying the rate of out migration (OMR) is

$$OMR = \frac{Mi}{Pi} * K$$

Where, OMR=Out migration rate, Mi= Total number of migrants during a given year or a period, pi= Midyear population; K= denotes a constant (100/1000).

In this context Age Specific Migration Rate (ASMR) can be defined as-

$$ASMR = \frac{Mx}{Pix} * K$$

Where, M_x is the number of out-migrated respondents aged at x, P_{ix} is the number of total out-migrated respondent x at i period, K is Constant (100/1000).

Migration streams: The movement of people from an area of origin (place of birth) i to the area of destination j during a given interval of the time denotes migration stream from i to j (Ramakumar and Gopal, 1986).Then the migration stream denotes;

$$\frac{Mij}{Pi} * K$$

Where, P_i is the population (out-migrant) at the area of origin or place of birth, M_{ij} is the out-migrated persons from area i (area of origin) to j (destination). K is the constant (100/1000).The study is done by different quantitative techniques such as average, percentage, Chi-square etc.

5. Literature survey:

Thaware (2013) studied on the basis of 2001 Census data and found that out-migration is mainly responsible for two factors viz. push and pull factors. Peoples are migrated due to their vulnerable socio-economic condition, lack of job opportunities, low wage rates in origin, poor basic amenities at their home place. In a general sense poverty and socio-economic exploitation at the village level creates more out-migration and which creates shortage of labour in a region. The decision of out-migration usually is taken after getting information on wage rates, employments opportunities, connectivity by rail, road. Among out-migrated rural peoples it is found that they are engaged in different informal sectors in the urban area like hotels, restaurants, construction sector etc. (Barman and Roy, 2013) due to unavailability of job opportunities in the rural area. Korra (2011) identified nature and characteristics of seasonal migration in Mahabubnagar district in Andhra Pradesh. The study reveals that most of the out-migrants destination towards the urban area in search of job opportunities. The out-migrants are categorised in two ways; rural migration and urban migration. In this context the destination selection is largely influenced by the accessibility of information about nature of work, awareness of life style, past experience, availability and suitability of work. In the another work on "Causes and Impact of Labour Migration: A Case Study of Punjab Agriculture" Kaur et al, (2011) reveals that in Punjab, the influx of migrant labour particularly in agriculture sector started with the green revolution and picked up subsequently. Due to monoculture in the cropping pattern, the state has become largely dependent on migrant labourers for various

agricultural operations. The influx of seasonal as well as permanent labour from outside has led to various socio-economic problems in Punjab. In the wake of this, the present study was purposively conducted in the Central Zone of Punjab for the year 2011 to find the causes and impact of labour in-migration in Punjab. Surabhi K.S.and N. Ajith Kumar (2007) in their working paper "Labour Migration to Kerala: A Study of Tamil Migrant Labourers in Kochi" expressed that the migrant labourers get much higher monetary wages than in their native places. But, they work for longer hours and their real wages may be lower as they have to incur higher cost of living in Kochi on food, shelter and transport. They live in shanty houses/rooms in slum like localities often on a sharing basis. A few of them live on verandas of shops. They have limited access to sanitation facilities and safe water. Their practices of waste disposal pose problems of public health and environment. Their working and living conditions and habits make them suffer from a number of diseases. But their access to public services like health and education is limited. They enjoy very limited protection from labour laws. They also face problems of social integration in Kerala. There are reports of large number of human rights violations. With the possibility of much larger influx in view of the large scale expansion of economic activities in the State, the migrants can put heavy pressure on urban infrastructure, environment and public services. They may also pose many challenges in governance particularly of urban areas. Robyn Iredale and Kalika N. Doloswala (2004) in their paper "International labour migration from India, the Philippines and Srilanka: Trend and Policies" that the labour migration has risen rapidly from the Asian region. Their paper analysed on contract labour migration –which may be organised by the governments of sending or receiving countries, by employers, by special agents, or by combination of these.

6. Results and discussion:
6.1. Nature and Characteristics of Migrant Households in the Study Villages:
The study of sample households from the selected villages shows that out of total sample households 24.28 % have their family members out-migrant. The nature of out-migrant is of seasonal in character. Out of all out-migrants 44.98% have engaged their workplace less than one year. These out-migrants are visited to different brick kilns and they back to home at the rainy season. The study also reveals that 5.19% out-migrants in the block having engaged their work since more than four years. The study mainly focuses the nature and characteristics of seasonal labour migration from the villages. The out-migrant household can be divided into two groups on the area to which they migrated. Among these households, some had members who migrated to the rural areas and others to the urban areas.
6.1.1. Reasons for Rural Labour Out- Migration:
Various empirical studies show that rural out-migration does occur from low to high income regions but some debate remains regarding the importance of the characteristics of origin and destination of explaining migration. Migration from rural areas means the departure of individuals or households, for more than a week or and it has also been identified as a survival strategy utilized by rural poor people's (lipton, 1980; Ajaero and Onokala, 2013). In India the out-migration from rural areas is an important issue that is gaining more significance year after year (Korra, 2010) which affects the rural population distributions (Findlay, Short & Stockdale, 2000). In studies of migration the rural out-migration is mainly related to the labour out-migration from the rural poor region and which related to income of remittances (Lipton, 1980; Talylor, 1999). According to Lee (1966) the causes of migration is related to the push and pull factors of a region and it is a permanent or semi-permanent change of residence. Todaro (1977) gives four aspects of migration and reasons, which are: relative benefits and costs-mostly financial, but also psychological; except wage differential; probability of jobs; urban-rural expected income differentials. Rahmato (1984) ; Cohen *et al, (*1988); Berhanu and White (1998)revealed in a short view from earlier research indicates that landlessness, poor agricultural policy, land fragmentation, absence of farm oxen, introduction of commercial farms, environmental degradation, population pressure, recurrent drought and famine, war, and political crisis were major factors responsible for rural out-migration. Migration can also occur as a flight from undesirable social or economic situations which constitute expulsive push by the community (Surabhi & Kumar, 2007; Debnath, 2003). There are two important reasons for rural out labour migration in Koch Bihar district is 'push' and 'pull' factors. The 'push' factor indicates the severe social

and economic problems faced by the rural labourers, where migration is necessary for stay alive. Mainly they are lower communities who are generally landless people belongs to scheduled caste and minority communities. The second reason 'pull' factors for out-migration is also rooted in subsistence and arises because of the need to supplement income in order to fill the gaps of seasonal employment. The important causes related to rural out-migration of labours in block as follows; a) Lack of employment or unavailability of job; b) Low income; c) Low daily wages and d) No industrial sector. The percentage distribution of push and pull factors of rural out-migration in Sitalkuchi block is given in table 1. It would be seen from the data that reveals the majority of the rural out-migrants (41.66%) migrated from rural areas to another region due to lack of employment or unavailability of job in rural areas of the district. It can also be seen from table 1 that low daily wages accounted for 31.25% and rural out-migration for low income 25.19% of the total rural out-migration in the block. The study also found that in the block has no any industry for availing the job opportunities. The remaining pull factors like availability of job in urban areas, high income and high wages etc. determines the rural out-migration in the block as well as in the district.

Table 1: Percentage distribution of Causes of Rural Labour Out-migration

Causes of Rural labour out-migration	Total (%)
Lack of employment or unavailability of job	41.66
Low income	25.19
Low daily wages	31.25
No industrial sector	1.90
Total	100.00

Source: Field Survey, 2016

6.1.2. Streams of Labour Migration:

From the study it is clear that the block level rural labour out-migration streams occur in following ways;
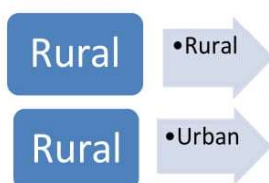
Figure 1. Streams of rural labour out-migration

6.1.2. a. Rural to Rural (R-R):

Rural to Rural out-migration indicates the workers who visited the different village working fields as a labour such as- Brick fields, agricultural contract labour in season. The sample study emphasizes that 38.82% households engaged to the rural destination whereas it was highest from Mahismuri villages (48%) followed by Golenaohati (47.37%), Bahir Thana (44.12%), Bara Maricha (41.67%) and so on (table 2). This type of out-migration denotes as seasonal migration (<1 year)

6.1.2. b. Rural to Urban (R-U):

Rural to urban out-migration indicates the workers who visited in the state or outside the state for long time work. Such as building construction, mining work etc. The study found that 61.18% households chosen to urban destination from the block in search of work/employment or better job opportunities. Out of seven sample villages Sarbbeshwar Jayduar (72.92%) recorded highest percentages of urban out-migration whereas it is lowest in Mahismuri (52%) (table 2).

Table 2: Distribution of Rural Out-Migrant Households According to Destination

Villages of Sitalkuchi Block	Total No. of Households*	MH** (%)		No. of Out-Migrated Households[#]
		UMH (%)	RMH (%)	
Sitalkuchi	8607	68.75	31.25	48
Mahishmuri	1238	52	48	25
.Golenaohati	2313	52.63	47.37	38
Sarbbeshwar Jayduar	800	72.92	27.08	48
Bhair Thana	849	55.88	44.12	34
Gadopota	569	61.11	38.89	18
Bara Maricha	420	58.33	41.67	24
Total	14,796	61.18	38.82	235

*Household indicates 2011 Census data. **MH-Migrant Household, RMH- Rural MigrantHousehold , UMH-Urban Migrant Household , #Household indicates field survey in 2016.

Source: Field Survey, 2016

Table 3:Test for Urban Out-Migrant Households (UMH) in Respect to Villages of the Block

d.f	(x^2) Observed	(x^2) table value	Remarks/Result
6	26.91	$x^2(0.05)_6 = 12.59$ $x^2(0.01)_6 = 16.81$	x^2 observed> x^2 table value. H_0 rejected, Migrants Households are not equal with respect to the villages in the block.

Source: Field Survey

Table 4: Test for Rural Out-Migrant Households (RMH) in Respect to Villages of the Block

d.f	(x^2) Observed	(x^2) table value	Remarks/Result
6	6.91	$x^2(0.05)_6 = 12.59$ $x^2(0.01)_6 = 16.81$	x^2 observed< x^2 table value. H_0 accepted, Migrants Households are equal with respect to the villages in the block.

Source: Field Survey

From the analysis of table 1, 2 and 3 it is clear that rural labour out-migration to the urban area is more dominant to the urban destination. The table 2 and 3 shows that tendency of out-migration to the urban area is not equal whereas it is equal to the rural destination.

6.1.3. Spatial Distribution of Labour Out-Migration:

The sample study shows there were 235 households having 289 individuals migrant where 167 individual migrant visited to urban destination and 122 individual visited to rural destination. Highest individual labour out-migration to the urban area (OMRU) has been observed in Sitalkuchi (76.92%) village followed by Gadopota (61.90%), Sarbbeshwar Jayduar (61.54%), Bhair Thana (56.82%), Golenaohati (51.22%), Bara Maricha (46.88%) and Mahismuri (38.24%) (table 2). The out-migration to rural area (OMRR) highest in Mahismuri village (61.76%), these migrants was basically moved with family members.

Table 5: Distribution of Number of Labour Migrants from Migrant Households

Villages of Sitalkuchi Block	OMR** (%)	
	OMRU (%)	OMRR (%)
Sitalkuchi	76.92	23.08
Mahishmuri	38.24	61.76
Golenaohati	51.22	48.78
Sarbbeshwar Jayduar	61.54	38.46
Bhair Thana	56.82	43.18
Gadopota	61.90	38.10
Bara Maricha	46.88	53.13
Total	57.78	42.22

**OMR-Out Migration Rate, OMRR-Out Migration Rate into Rural   Area, OMRU-Out Migration Rate into Urban Area.
Source: Field Survey, 2016

Table 6:Test for Distribution of OMRU-Out Migration Rate of labours into Urban Areas in Respect to Villages of the Block

d.f	(x^2) Observed	(x^2) table value	Remarks/Result
6	35.41	$x^2(0.05)_6 = 12.59$ $x^2(0.01)_6 = 16.81$	x^2 observed> x^2 table value. H_0 rejected, Out Migration Rate into Urban area not equal with respect to the villages in the block.

Source: Field Survey

Table 7: Test for Distribution of OMRR-Out Migration Rate of labours into Rural Areas in Respect to Villages of the Block

d.f	(x^2) Observed	(x^2) table value	Remarks/Result
6	11.34	$x^2(0.05)_6 = 12.59$ $x^2(0.01)_6 = 16.81$	x^2 observed< x^2 table value. H_0 accepted, Out Migration Rate into Rural area is equal with respect to the villages in the block.

Source: Field Survey

Similarly the out-migrant households the individual migrants are more dominant to the urban area where rural out-migration of labour rate into the urban area is not equal from the villages of the block (table 6 and 7).

6.1.4. Age-Sex Composition of Rural Labour Out-Migration:

Age-sex composition is one of the important components of population study. The Age-specific rate of out-migration from rural areas of Sitalkuchi block is not equal. The table 7 shows 82.04% of rural male and 17.96% of rural female is out migrated to the urban area of all age group. The study reveals the age group of 15-24 years male and 25-34 years female are more dominants age group in Sitalkuchi block. In this case it is found that the young male population group visited to urban places of other states for their livelihood and survival for their family members. This migrant group did not complete their education, these means they were droop-out from school or college education. Similarly, age-specific migration rate (ASMR) to the rural destination of male (51.54%) population is higher than the female (48.36%) population among the rural out-migrant labourers. The

age group of 35-44 years of male and female population represents 22.13% and 19.67% respectively. This type of age group of peoples is visited to the rural areas of other district or state for their livelihood (table 8).

Table 8: .Age-Sex Composition of Rural labour Out-Migrants

Age group (years)	OMRU (%)		Total(%)	OMRR (%)		Total (%)
	Male	Female		Male	Female	
<14	1.20	01.80	02.99	04.10	03.28	07.38
15-24	30.54	03.59	34.13	01.64	02.46	04.10
25-34	26.95	08.38	35.33	17.21	14.75	31.97
35-44	13.17	04.19	17.37	22.13	19.67	41.80
45-54	08.38	0	08.38	04.92	06.56	11.48
>55	01.80	0	01.80	01.64	01.64	03.28
Total	82.04	17.96	100	51.54	48.36	100

Source: Field Survey, 2016

Table 9: Test for Distribution of OMRU-Out Migration Rate of labourer into Urban Area in Respect to the Age Groups

d.f	(x^2) Observed	(x^2) table value	Remarks/Result
5	17.53	$x^2(0.05)_5 = 11.07$ $x^2(0.01)_5 = 15.05$	x^2 observed> x^2 table value. H_0 rejected, Out-Migration Rate into Urban area is not equal with respect to the all age groups.

Source: Field Survey

Table 10: Test for Distribution of OMRR-Out Migration Rate of labourer into Rural Areain Respect to the Age Groups

d.f	(x^2) Observed	(x^2) table value	Remarks/Result
5	0.885	$x^2(0.05)_5 = 11.07$ $x^2(0.01)_5 = 15.05$	x^2 observed< x^2 table value. H_0 accepted, Out-Migration Rate into Rural area is equal with respect to the all age groups.

Source: Field Survey

The table 9found that tendency of rural out-migration to the urban area of all age group is not similar; it is depend on a particular age-group and null hypothesis also been rejected whereas the tendency of out-migration into the rural area (table 10) is equal within all the age groups and the null hypothesis not been rejected.

6.1.5. Composition of Religion of Rural Labour Out-Migration: The study shows 55.36% of the total population of Muslims and 44.64% of Hindus are recorded as out-migration of Sitalkuchi block, whereas Muslim male migrants are more dominant than male Hindu migrants. It is observed from the table 11 and 12 that male and female migrants are equal with respect to religion in the block. In the all religion Muslims are dominant but the Hindus are equally distributed. It is to note here that the Hindus are predominant religion while other religion is also independent in the block.

Table 11: Distribution of labour Out-Migrants According to the Religion from the block

Religion	Male (%)	Female (%)	Total (%)
Hindu	30.80	13.84	44.64
Muslim	38.41	16.96	55.36

Total	69.20	30.80	100

Source: Field Survey, 2016

Table 12: Test for Distribution of Rural labour Out-Migration in Respect to Religion

d.f	(x^2) Observed	(x^2) table value	Remarks/Result
1	0.004909	$x^2(0.05)_1 = 3.84$ $x^2(0.01)_1 = 6.63$	x^2 observed$< x^2$ table value. H_0 accepted, Rural Out-Migration Rate is equal with respect to the all religions.

Source: Field Survey

6.1.6. Composition of Caste of Rural Labour Out-Migration: It is observed from the table 13 that OBCs (47.40%) are found more dominant among other castes in villages of Sitalkuchi block. In this regard it is clear that 32.18% male record OBCs and 29.07% records male SCs labour out-migrants' population. Table 14 studied that rural labour out-migration rate equal to the all castes in the villages. In all the castes OBCs male out-migrants account for the highest percentage but other categories are equally distributed.

Table 13: Distribution of labour Out-Migrants According to the Caste from the block

Caste		Male (%)	Female (%)	Total (%)
SCs		29.07	12.46	41.52
STs		0	0	0
OBCs		32.18	15.22	47.40
Others		07.96	03.11	11.07
Total		69.21	30.79	100

Source: Field Survey, 2016

Table 14: Test for Distribution of Rural Labour Out-Migration in Respect to Castes

d.f	(x^2) Observed	(x^2) table value	Remarks/Result
2	0.13876822	$x^2(0.05)_2 = 5.99$ $x^2(0.01)_2 = 9.21$	x^2 observed$< x^2$ table value. H_0 accepted, Rural Out-Migration Rate is equal with respect to the all caste groups.

Source: Field Survey

6.1.7. Duration of Rural Labour Out-Migration:

According to their destination the duration of labour migration classified in two ways viz., short-term and long-term out-migration. We have identified the labour out-migration stream into two types. Sometimes, the out-migration to rural and urban area became temporary and permanent change of residence for their livelihood.

6.1.7. a. Short-term or temporary labour migration:

Temporary labour migration is the relocation of a worker to a place of work outside of his/her home place or village for a limited period of time as stated in the terms of a labour contract. This type of out-migrants changes their residence for sometimes in a year. Primarily the labour out-migrants visit to the destination place in the time of non-agricultural season at the origin. Out of all rural labour out-migrants 44.22% of rural to urban labour migrants having less than one year to the destination whereas it was 37.37% of rural to rural labour out-migrants (table 15).

6.1.7. b. Long-term or permanent Labour migration:

Permanent Labour migration is the resettlement of a worker in place outside his own place in perpetuity. The study also found that 5.19% of rural out-migrant reveals more than 4 year experience in the origin. Observation from the field it is clear that urban out-migrants are staying at the origin since long time (table 15)

Table 15: Duration of Rural Labour Out-Migration to the Destination

Duration of Migrants (years)	Rural Labour Out-Migrants (%)		Total (%)
	Rural to Urban (R-U)	Rural-Rural (R-R)	
<1	42.22	37.37	44.98
1-2	05.88	02.42	08.30
2-3	02.42	01.38	03.81
3 -4	02.08	01.04	03.11
>4 year	05.19	0	05.19
Total	57.79	42.21	100

Source: Field Survey, 2016

Table 16: Test for Distribution of Rural labour Out-Migration in Respect to Duration

d.f	(x^2) Observed	(x^2) table value	Remarks/Result
4	15.1985981	$x^2(0.05)_4 =9.49$ $x^2(0.01)_4=13.28$	x^2 observed> x^2 table value. H_0 rejected, Rural Out-Migration Rate is not equal with respect to the duration.

Source: Field Survey

Table 16 indicates rural labour out-migration rate to the rural and urban area on the basis of duration is not equal. Duration of the respondents varies due to the nature of work and the streams of migration.

6.1.8. Working Days of Rural Labour Out-Migrants: It is observed that from the table 17, most of the respondents (77.51%) are engaged in their workplace more than 20 days in a month. Both the rural to rural (33.91%) and rural to urban (43.60%) areas majority respondents are involved their workplace at least more than 20 days in a month (table 17).

Table 17: Working Days of Rural Labour Out-Migration

Number of working days	Rural Labour Out-Migrants (%)		Total
	Rural to Urban (R-U)	Rural-Rural (R-R)	
<10 days	05.54	02.76	08.30
11-20 days	8.65	05.54	14.19
>20 days	43.60	33.91	77.51
Total	57.79	42.21	100

Source: Field Survey, 2016

Table 18: Test for Rural Labour Out-Migration in Respect to Number of Working Days

d.f	(x^2) Observed	(x^2)table value	Remarks/Result
2	1.16	$x^2(0.05)_2=5.99$ $x^2(0.01)_2= 9.21$	x^2 observed<x^2 table value. H_0 do not reject, Rural Out-Migration Rate equal with respect to the number of working days per month.

Source: Field Survey

The table 18 shows that rural labour out-migration rate in respect to the number of working days per month is equal and the null hypothesis is accepted. Basically, majority of the labour out-migrants are short-term in nature and they back to home at the off season.

6.1.9. Occupational Structure of Rural Labour Out-Migrants:

The labour out-migrants are engaged in different activities like brick kilns, construction, industry, house painting etc. The table 19 reveals that out of total out-migrant labour, 34.95% are engaged in brick kilns, 31.49% are in construction, 30.48% are in industrial sector and 3.11% are in house painting.

Table 19: Types of Occupation of Rural Labour Out-migration

Types of occupation	Rural Out-Migrants (%)		Total (%)
	Rural to Urban (R-U)	Rural-Rural (R-R)	
Brick Kilns labourer	0	34.95	34.95
Construction labourer	29.78	01.73	31.49
Industrial labourer	24.91	05.54	30.48
House painter	03.11	0	03.11
Total	57.79	42.21	100

Source: Field Survey, 2016

Table 20: Test for Rural Labour Out-Migration in Respect to Types of Occupation

d.f	(x^2) Observed	(x^2)table value	Remarks/Result
3	215.96	$x^2(0.05)_3=7.81$ $x^2(0.01)_3=11.34$	x^2 observed>x^2 table value. H_0 rejected, Rural Out-Migration Rate is not equal with respect to the types occupation.

Source: Field Survey

The table 20 shows the rural labour out-migration towards urban and rural area is not equal on the basis of occupation. Most of the Rural to urban labour migrants are selected occupation as construction labourer (29.78%) whereas it is 34.95% of brick kilns labourer in rural to rural labour out-migrants. This study shows the null hypothesis is rejected means of rural-urban labour out-migrants are dominant in construction sector and rural-rural labour out-migrants are dominant in brick kilns sites.

6.1.10. Income of the Rural Labour Out-Migrants:

The sample study of the table 21 shows 42.91 % of the respondents monthly income is more than 8000 rupees per month whereas it is 38.75% in rural to urban migrant and 4.15% in rural to rural out-migrant. The table also shows majority (29.07%) of the Rural to rural labour migrant's income ranges from 7000-8000 rupees per month. The table 22 founds the testing of the hypothesis is rejected

Table 21: Distribution of Monthly Income of Rural Labour Out-Migrants

Income in Rupees	Rural Labour Out-Migrants (%)		Total (%)
	Rural to Urban (R-U)	Rural-Rural (R-R)	
<5000	03.11	04.50	07.61
5000-6000	01.38	02.08	03.46
6000-7000	03.81	02.42	06.23
7000-8000	10.73	29.07	39.79
>8000	38.75	04.15	42.91
Total	47.06	42.23	100

Source: Field Survey, 2016

The study found that a large percentage of labour out-migrant depends on *dalal or* third person in search of livelihood in different urban areas of India. These third persons are also known as *Thikadar*. Rural labour out-migrants of brick kilns have received a large amount as *Dadan*(amount of rupees which is paid earlier to the labour out-migrants by the *Thikadar)* and paid amount will be deducted after joining their work at the destination.

Table 22 : Test for Distribution of Rural Labour Out-Migration in Respect to the Respondents Monthly Income

d.f	(x^2) Observed	(x^2)table value	Remarks/Result
4	102.57	$x^2(0.05)_4 =9.49$ $x^2(0.01)_4= 13.28$	x^2 observed>x^2 table value. H_0 rejected, Monthly income (Rs.) of Migrants are not equal in respect to the migration stream.

Source: Field Survey

8. Conclusions: Migration in India is mostly influenced by Social Structures and pattern of development. Added to it, are the disparities, Inter regional and amongst different socio-economic classes. The landless poor who mostly belong to lower castes, indigenous communities and economically backward regions constitute the major portion of Migrants. The Govt. of India enacted the "Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act-1979" which covers interstate migrants, it lays down that contractors must pay timely wages equal or higher than the minimum wages, provide suitable residential place, medical care, necessary cloths etc. But these are needless to say, that the Act remained only on the paper. For reduce the rural labour migration from the rural areas, the Govt. should provide the different laws and Act in a correct way. The Govt. should provide different schemes and development project in the rural areas which deals the availability of job opportunities and reduce the poverty. Not only the Govt. but also the NGOs should start different workshop and programme for improvement of better job security in rural areas which will reduce the rural labour out-migration.

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Socio-Economic Development and Environmental Sustainability: The Indian Perspective

17

Assessment of Mahatma Gandhi Rural Employment Guarantee Scheme (MGNREGS) on Rural Out-migration in Koch Bihar District, West Bengal: A Multivariate Analysis

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Abstract

The present paper identifies the participation of sample households in Mahatma Gandhi National Rural Guarantee Scheme (MGNREGS) for assessment of impact on income and employment generation which may reduce the out-migration of people from rural areas of Koch Bihar district. The study emphasises on seven indicators by using the multiple regression model for the identifying of factors of employment and income generation of the beneficiaries worked under the scheme. Using these multivariate analyses from the case studies, there is some significant impact of respondents' participation in the programme on decision of out migration. However, it must be noted that this rural programme slightly has reduced the short-term or temporary migration instead of complete elimination of long-term or permanent out-migration.

Keywords: MGNREGS, Employment, Income, Multiple Regression Model

Introduction

The National Rural Employment Guarantee Act (NREGA) was approved by the Indian Parliament in September 2005. This Act started functioning from 2ndFeb, 2006 (renamed as MGNREGA from 2nd October, 2009) as NREGS for enhancing the livelihood security in rural areas of India through providing employment guarantee. This programme is one of biggest programme in the countries of rural areas, where it aims to provide 100 days employment for the unskilled manual work to the adult member of every family. This scheme provides income directly to the unskilled labour into the rural areas. However, the main objective of MGNREGA is to augment wage employment with a secondary objective of strengthening, "natural resource management through works that address the cause of chronic poverty like drought, deforestation and soil erosion" and it encourages for sustainable development (Ministry of Rural Development; Benni and Nagaraja,2017; Purohit, 2012). The MGNREGA works has been increasing day by day and it is observed that the participation of women is also increasing. In this study, the major concern is that women are giving equal wage rate to the men giving priority the enhancement of women empowerment economically as well as socially. This Act can be considered as a small step in this direction of enabling poor persons and households to have access to income that enhances the well-being (Puthenkalam and George, 2012). Human development strategy of MGNREGA denotes sustainable development of an agricultural economy. It has a basic potentiality to transform geography of poverty. It is called the model of governance reform anchored on the principles of transparency and grass root democracy. It has the basic wage security and recharging rural economy to a transformative empowerment process of democracy (Purohit, 2012; Puthenkalam and George, 2012).

It is true that this work is one of the world largest public entitled programmes, giving rural households a right to enhance, going beyond a more welfare or poverty alleviation programmes. The Act was notified in 200 districts in the first phase with effect from 2006 and then it extended to additional 130 districts in the financial year 2007-08. Remaining districts have been notified under NREGA with effect from April 1, 2008. Thus, NREGA covers the entire country with the exception of districts that have a hundred per cent urban population (Purohit, 2012). Barman and Roy (2019) studied that the rural areas of Koch Bihar district are characterised

by 'no industry district as well as the base of economy mainly agrarian' as the main reason for labour out-migration. The landless poor people who are mostly immigrant from Bangladesh, indigenous communities and economically backward constitute the major portion of out migrants. The labour outmigration occurred in two ways viz. short-term migration and long-term migration. These migrant labourers visited in brick kilns, stone quarrying, plantations, construction, and rice mills etc. for their livelihood. So, MGNREGS aims to establish a 'social floor' for poor and weaker section basically for SC/ST/women. This programme was initiated with multiple objectives other than providing employment such as the rural out-migration, building rural asset and infrastructure, women empowerment and weaker groups.

Study Area

Koch Bihar is a north-eastern most district of West Bengal located at the foothills of Himalaya. Koch Bihar district is bounded by the district of Alipurduar in the North, Jalpaiguri in the North- West, State of Assam in the East and International border in the form of Indo-Bangladesh boundary in the South-West, South and South-East. It lies between 25°57′47″ N and 26°36′20″ N and 88°47′44″ E to 89°54′35″ E with the total area of 3387 square kilometres having population of 2,819,086 of which 1,451,542 are male and 1,367,544 are female. The density of population is 832 persons per square kilometres and sex ratio is 942 and child sex ratio is 948 females per 1000 males as per 2011 census. The district comprises 12 blocks namely Haldibari, Mekhliganj, Mathabhanga-I, Mathabhanga-II, Cooch Behar-I, Cooch Behar-II, Tufanganj-I, Tufanganj-II, Dinhata-I, Dinhata-II, Sitai and Sitalkuchi.

Objectives

The present study is based on the following objectives:

1. To find out the status of 100 days' work under this scheme in the district.
2. To find out the impact of MGNREG Scheme on employment and income generation.
3. To assess the role of MGNREG Scheme on reduction of rural out-migration from the district.

Methodology

The study is based on both primary and secondary data from different sources such as MGNREGS beneficiaries at village level. The secondary data related to number of households applied for the scheme, total allotted work, total household allotted etc. collected from https://nrega.nic.in/. The primary data is very useful for in-depth analysis of impact analysis. The primary data have been collected through a household level survey by administering structured and unstructured questionnaires, with individual interviews and group discussions with the sample households (N=398). Multiple linear regression models have been used to identify the factors to identify the number of days and income generation of the beneficiaries worked under MGNREG Scheme. The two empirical model used for estimation was form of following equations:

$$Y_a = \alpha + \beta_1 Om_{Rural} + \beta_2 R_a + \beta_3 G + \beta_4 In_m + \beta_5 JC_h + \beta_6 JC_n + \beta_7 W_f - \dots \dots \dots (i)$$

$$Y_b = \alpha + \beta_1 Om_{Rural} + \beta_2 R_a + \beta_3 G + \beta_4 In_m + \beta_5 JC_h + \beta_6 JC_n + \beta_7 W_f \dots \dots \dots (ii)$$

Description of the Variables

Y_a = Number days' work received under the last financial year (out of 100 days)

Y_b = Workers income (rupees) from MGNREGS

α = Intercept, a scale of parameter.

Om_{Rural} = Rural out-migration (Intercept dummy 1 for out-migrant and 0 for non-migrant)

R_a = Age of respondents (in Years)

G = Gender (Intercept dummy 1 for male and 0 for female)

In_m = Monthly Income (rupees)

JC_h = Job card holder (intercept dummy 1 for Yes and 0 for No)

JC_n = Job card holders in family (in numbers)

W_f = Frequency of works in the last Financial Year (FY-2017-18)

Review of Literature

Anilkumar and Mulagund (2016) in their paper "Impact of Mahatma Gandhi National Rural Employment Guarantee Act on Rural Urban Migration in Background Areas-A Micro Level Investigation in Yadgir District in Karnataka State" shows the impact of this scheme on rural-

urban migration in backward areas of Karnataka. The study found that this the life line of rural poor of the state. The study reveals direct and indirect impacts of on employment generation and poverty reduction. Singh (2013) found that MGNREGS programme helps the rural poor and weaker section of the society with the helping of employment which also reduces the temporary out-migration. Parida (2015) focused the MGNREGS has contributed enormously in creating job opportunities for the needy poor and socially backward households. The accessibility of NREGS prevented huge number of distress seasonal out migration and brought financial autonomy for the landless poor (Below Poverty Line) and socially backward (Scheduled Castes and Scheduled Tribes) households through regular wage income. This helped them to come out of hunger and debt traps, and hence an improved living standard. Das (2015) studied impact of the rural employment guarantee scheme in reducing rural out migration. Using regression framework and case studies, it finds no significant impact of household participation in the programme on migration decision. However, extent of participation in terms of number of days of work and earnings has a significant negative impact on short-term migration but not on longer duration ones. The findings lay emphasis on effective implementation in terms of asset creation, reduction in rationing of works and tackling delayed payments to enjoy its potential benefits. Kumar and Deogharia (2017) studied in Jharkhand for the investigation of impact of MGNREGA on rural out-migration where successful implementation of this scheme reduces the male out-migration and created short-term employment opportunities in the area. It is important to note that the participation of female in this scheme is slightly higher than male population because the male is doing other jobs for survival. It is also found that engagement of the work among illiterate respondents higher than educated person. Most of the MGNREGA workers were earlier doing the job of cultivation, farming, and construction. The chances of working in MGNREGA are high among not working for population, currently a married couple, land owner, and primary level education worker (Singh, 2018). Singh (2013) studied people are migrating due to lack of adequate agricultural land, inadequate agricultural production, less irrigation facility, and acute water scarcity whereas MGNREGS can help to reduce temporary migration but is ineffective in long period, when several factors would change together. Another studied by Prasad (2016), this scheme has played an important role in reducing the distress migration. However, it must be noted that although it has reduced distress but has not been able

to completely eliminate the process of distress migration. The underlying reasons for it is that the program is not being implemented throughout the year rather limited number of days of employment under the MGNREGS programme.

Results and Discussion

Working Details of MGNREGS

Table-1 shows the working details of the programme in Koch Bihar district at block-wise. Average 49.83 per cent of household of the district was allotted for the work under MGNREGS in the financial year of 2017 to 2018. The highest percentage of households allotted work identified in Haldibari (76.98%) followed by Mathabhanga-II (63.73%), Tufanganj-II (58.91%), and Cooch Behar-I (57.14%). The minimum percentage of households allotted work identified in Mathabhanga-I (37.67%) followed by Dinhata-II (37.90%), Dinhata-I (39.82%), and Tufanganj-I (44.43).

Table 1: Working Details of MGNREGA in Koch Bihar District (2017-18)

Block Name	Allotted Household Work (%)	Category-Wise Worker Under MGNREG Scheme (%)		
		SC	ST	Others
Koch Bihar-I	57.14	45.17	0.28	54.55
Koch Bihar-II	50.48	57.46	1.06	41.48
Tufanganj-I	44.43	53.35	0.11	46.55
Tufanganj-II	58.91	59.85	2.05	38.10
Dinhata-I	39.82	41.39	1.17	57.44
Dinhata-II	37.9	43.73	0.64	55.62
Sitai	53.29	69.28	0.11	30.62
Haldibari	76.98	61.57	0.36	38.07
Mekliganj	52.51	74.49	2.85	22.66
Mathabhanga-I	37.67	74.99	0.12	24.89
Matha Bhanga-II	63.73	58.11	1.17	40.72
Sitalkuchi	54.05	58.55	0.01	41.44
Total	49.83	55.28	0.81	43.90

Source: www.nrega.nic.in (FY 2017-18)

Out of all categories of workers, 55.28 per cent workers household belongs from Scheduled caste (SC) and remaining 0.81 per cent from Scheduled caste (ST) and 43.90 per cent from other castes categories. Majority percentage of SC workers taken this scheme for Mathabhanga-I block (74.99%) followed by Mekhliganj (74.49%), Mathabhanga-II (63.73%) and so on. In the financial year 2017-18, very lowest percentage of SC workers engaged for the community development block Dinhata-I (41.39%) whereas remaining 57.44 percentages of workers belong from other castes.

Characteristics of MGNREGS Household by Migration Status

This study shows the relationship between household basic features and their migration status with reference to MGNREGS status in the study villages. Of the total surveyed households 83.9 percentages of them received MGNREGS job card. Of them 65.5 percentage of households with MGNREGS job cards have at least one member migrated outside the villages (Table-2)

Table 2: MGNREGS Household According to Their Migration

Job Cads of Households (%)		Migration Status (%)		Grand Total (%)
Yes	No	Non-Migrant	Migrant	
83.9	16.1	33.5	65.5	100

Source: Field Study

This indicates that in spite of being the beneficiary of MGNREGS, some number of households sent their family member(s) to other places for the better earnings. According to migration status it was found that 33.5 percent of non-migrants receive job cards while the corresponding 16.1 percent of total households in the district did not receive the job cards (Table-2). The study focuses the peoples belonging from BPL category wholly depend on out-migration for their fulfilment of livelihood. This was mainly due to the uncertainty, irregularity, less frequency of work involved in this scheme. As a result, workers faced a problem of ambiguity about when and how many days of work they are going to get and what wage rates. Consequently, such poor households showed no interest all in this scheme (Korra, 2015).

Table 3: MGNREGS Household by Their Caste and Migration

Caste	Migration status (%)		Total (%)
	Non-Migrant	**Migrant**	
SC	22.2	43.7	65.9
ST	0.0	.6	.6
OBC	7.2	21.0	28.1
General	4.2	1.2	5.4
Total	33.5	66.5	100.0

Source: Field Study

Out of total beneficiary households, 65.9 percentages of job card holding households belong to Scheduled caste (SC) communities followed by OBCs (28.1%), General (5.4%) and STs (.6%). At the same time, financially vulnerable deprived communities like the Scheduled caste (SC) and OBC are more likely to engage in this scheme whereas general caste and STs Groups although less in number in the sample are less in realty less inclined to the work in MGNREGS. Among the MGNREGS households a large percentage of out migration happened from SCs (43.7%) and OBCs (21.0%) where STs and general castes were less inclined to do so (table-3). Similarly, non- migrants' households too belong to SCs and OBC communities. It is evident that the household having better resource and assets are less likely to get registered in this scheme. And it is also note that non-MGNREGS households are unwilling to leave their village due to better household resources.

Table 4: MGNREGS Households by Their Occupation and Migration Status

Present Occupation	Migration Status (%)		Total (%)
	Non-Migrant	**Migrant**	
Cultivator	7.8	13.8	21.6
Agricultural labours	6.6	21.6	28.1
Construction labour	.6	5.4	6.0
Labour at brick kilns	5.4	4.8	10.2
Household industry workers	4.8	4.2	9.0
Private sector	.6	1.8	2.4
Business	2.4	4.2	6.6

Present Occupation	Migration Status (%)		Total (%)
	Non-Migrant	Migrant	
Govt service	1.8	2.4	4.2
Others	3.6	8.4	12.0
Total	33.5	66.5	100.0

Source: Field Study

The above Table-4 shows 28.1 percentage of agriculture labours and 21.6 percentage cultivators of households possess MGNREGS employment card whereas 21.6 percentages and 13.8 percentages are the migrants from agricultural labour and cultivator respectively. Cultivators have less access to the scheme compared to agricultural labours but it was not so difference observed between them when it comes to migration. It is clear that some cultivators and agricultural labours want to engage this scheme during agriculture season whereas some landless construction labour, cultivator and agricultural labours prefer to out-migrate other regions for their livelihood. With regard to the scheme it was observed that 83.9 percentage of household having job cards whereas 16.1 percentage do not have to them.

Table 5: MGNREGS Households by Amount of Land and Migration Status

Amount of Land (bigha)	Migration Status (%)		Total (%)
	Non-Migrant	Migrant	
<3	10.8	35.9	46.7
3-6	2.4	8.4	10.8
>6	3.6	6.6	10.2
Landless HH	16.8	15.6	32.3
Total	33.5	66.5	100.0

HH-Household, 1 *bigha*=0.1338 *hectare* or 1/3 *acre*
Source: Field Study

It seems the amount of land play an insignificant role getting the jobs under MGNREGS because both migrant and non-migrant household more or less have to access to the scheme. The table shows amount of land less than 3 *bigha* having higher percentage (35.9%) of migration. Thus, the land having more than 6 *bigha* with MGNREGS job cards are less inclined to out-migration (6.6%) than landless households. Out of, 32.3 percentage are landless poor people those having job card 16.8 percentage of them did

not engage in migration and they were depending on jobs in locality and MGNEGS (Table-5).

Table 6: MGNREGS Worker According to Their Sex and Migration Status

Gender	Migration status (%)		Total (%)
	Non-Migrant	Migrant	
Male	28.7	59.9	88.6
Female	4.8	6.6	11.4
Total	33.5	66.5	100.0

Source: Field Study

The Table-6 shows 88.6 percentages were male worker and 11.4 percentages of them are females. Males' participation in this scheme is greater than female participation. Out of 65.5 percentages migrant households, 59.9 percentages of individual male workers belong to migrant household whereas remaining 28.7 percentage are non-migrant (table-6). Interactions with the workers focused that when an active family member are migrated to the other places for the work or employment then another adult member of the family usually engage in the scheme. Korra (2015) revealed that the pattern of out-migration or working in the MGNREGS not only depends on size of family, gender, and age composition but it also depends on number of working days, wages, number of job cards, in the employment scheme.

Table 7: Households According to MGNREGS and Migration Status

Block Name	Job Card of Household (%)		Migration Status (%)		Total (%)
	Yes	No	Non-migrant	Migrant	
Dinhata-I	41.7	58.3	40.0	60.0	100.0
Dinhata-II	33.3	66.7	0.0	100.0	100.0
Haldibari	100.0	0.0	0.0	100.0	100.0
Koch Bihar-I	85.7	14.3	16.7	83.3	100.0
Koch Bihar-II	100.0	0.0	58.8	41.2	100.0
Mathabhanga-I	100.0	0.0	20.0	80.0	100.0
Mathabhanga-II	100.0	0.0	17.6	82.4	100.0
Mekhliganj	75.0	25.0	33.3	66.7	100.0
Sitai	100.0	0.0	66.7	33.3	100.0

Block Name	Job Card of Household (%)		Migration Status (%)		Total (%)
	Yes	No	Non-migrant	Migrant	
Sitalkuchi	75.6	24.4	47.1	52.9	100.0
Tufanganj-I	100.0	0.0	24.0	76.0	100.0
Tufanganj-II	100.0	0.0	27.3	72.7	100.0
District-Koch Bihar	83.9	16.1	33.5	66.5	100.0

Source: Field study

Out of twelve study blocks beneficiaries from Haldibari, Koch Bihar-II, Mathabhanga-I, Mathabhanga-II, Sitai, Tufanganj-I and Tufanganj-II having 100 percentage of employment card of the respondents. Of 33.3 percentage respondents having job cards in Dinhata-II block and remaining 66.7 percentages are job cards. Similarly, Dinhata-I blocks having lower parentage of job card holder. The study clears that lower percentage of job card for employment sometimes higher percentage of out-migration. At Dinhata-II block all the respondents are migrants to the other places for their livelihood (Table-7).

Table 8: MGNREGS Households and Worked Days

Block Name	Working Days (%)			Total (%)
	<50 days	51-60 days	>61 days	
Dinhata-I	100.0	0.0	0.0	100.0
Dinhata-II	100.0	0.0	0.0	100.0
Haldibari	80.0	20.0	0.0	100.0
Koch Bihar-I	94.4	5.6	0.0	100.0
Koch Bihar-II	100.0	0.0	0.0	100.0
Mathabhanga-I	90.0	10.0	0.0	100.0
Mathabhanga-II	94.1	5.9	0.0	100.0
Mekhliganj	100.0	0.0	0.0	100.0
Sitai	100.0	0.0	0.0	100.0
Sitalkuchi	100.0	0.0	0.0	100.0
Tufanganj-I	72.0	4.0	24.0	100.0
Tufanganj-II	90.9	0.0	9.1	100.0
Total	92.8	3.0	4.2	100.0

Source: Field Study

The above table shows the majority of working days of the worker are less than 50 days in a year (92.8%). Out of, only 4.2 percentage and 3 percentage of the respondents have received their work more than 61 days and 51 to 60 days in the financial year 2017-18 in Koch Bihar district. The study revealed that 100 percentage workers got employment less than 50 days in a year of CD block Dinhata-I, Dinhata-II, Koch Bihar-II, Mekhliganj, Sitai and Sitalkuchi. Only, 24 percentage of workers got employment more than 61 days in a year of Tufanganj-I whereas it was 9.1 percentage of Tufanganj-II block (Table-8).

Table 9: Number of Working Days of MGNREGS by Their Sex

Working Days	Gender (%)		Total (%)
	Male	Female	
<50 days	87.7	12.3	100.0
51-60 days	100.0	0.0	100.0
>61 days	100.0	0.0	100.0
Total	88.6	11.4	100.0

Source: Field study

Numbers of completed working days are low to the female worker comparatively to the male workers in the district. On the whole, the minimum number of working days is less than 50 days where 87.7 percentages are male and 12.3 percentages is female worker in the district. It interesting to note that there is no any female worker who engaged the MGNREGS work more 51 days to 100 days in the financial year 2017-18 in Koch Bihar district. This indicates participation of female workers is less in this programme in the study area (Table-9).

Table 10: Annual Wages of MGNREGS Workers by Their Sex

Annual Wages (Rs) from MGNREGS	Gender (%)		Total (%)
	Male	Female	
<5000	28.1	6.6	34.7
5000-10000	53.3	4.8	58.1
>10000	7.2	0.0	7.2
Total	88.6	11.4	100.0

Source: Field Study

The critical aspect to look into wages of MGNREGS where majority of respondents (58.1%) annual wages from the scheme is Rs. 5000 to 10000 and very negligible number of them received wages more than Rs. 1000 (7.2%). In the wage differentiation majority of the male workers receive Rs. 5000 to 10000 (53.3%) whereas it was 4.8 percentages for the female workers (Table-10).

From the above Table-11 three aforesaid wage categories, workers from majority of non-migrant households account annual wages Rs. 5000 to 10000 (23.4%) out of 33.5 percentage of total non-migrant participants. It is evident that certain workers who paid lower wages they have to turn on migration from the villages of Koch Bihar district.

Table 11: Annual Wages of MGNREGS and Migration of Workers by Their Sex

Annual wages (Rs) from MGNREGS	Migration Status (%)		Total (%)
	Non-Migrant	Migrant	
<5000	8.4	26.3	34.7
5000-10000	23.4	34.7	58.1
>10000	1.8	5.4	7.2
Total	33.5	66.5	100.0

Source: Field study

Table 12: Asset Creation Under the MGNREGS Work

Block Name	Soil Digging for Road Repair (%)	Plantation (%)	Well Digging, Weed Clear and Drainage Cleaning (%)	Total (%)
Dinhata-I	80.0	20.0	0.0	100
Dinhata-II	100.0	0.0	0.0	100
Haldibari	40.0	0.0	60.0	100
Koch Bihar-I	100.0	0.0	0.0	100
Koch Bihar-II	64.3	0.0	35.7	100
Mathabhanga-I	70.0	0.0	30.0	100
Mathabhanga-II	100.0	0.0	0.0	100
Mekhliganj	100.0	0.0	0.0	100
Sitai	81.8	0.0	18.2	100
Sitalkuchi	96.8	3.2	0.0	100

Block Name	Soil Digging for Road Repair (%)	Plantation (%)	Well Digging, Weed Clear and Drainage Cleaning (%)	Total (%)
Tufanganj-I	68.0	4.0	28.0	100
Tufanganj-II	0.0	54.5	45.5	100
Total	78.8	5.6	15.6	100

Source: Field Study

Table 13: Type of MGNREGS Work by Their Migration Status

Migration Status	Types of work			Total (%)
	Soil Digging for Road Repair (%)	Plantation (%)	Well Digging, Weed Clear and Drainage Cleaning (%)	
Non-migrant	83.3	3.7	13.0	100.0
Migrant	76.4	6.6	17.0	100.0
Total	78.8	5.6	15.6	100.0

Source: Field Study

Implications of MGNREGS on Surveyed Households

In this portion an attempt has been done on the impact of MGNREGS on beneficiary households. Overall, the particulars regarding the work done or asset creation under MGNREGS project in the district according to the surveyed household that 78.8 percentage work done under the scheme was soil digging for road repairing, 15.6 percentage was well digging, weed clear and drainage cleaning and 5.6 percentage was for plantation. It was surprise to that only one CD block Tufanganj-I was done under these categories of work, where 68 percentage works was done on soil digging for road repairing, 28 percentage for weed clear and drainage cleaning and only 4 percentages was for plantation. It is also noted that 54.5 percentage works under plantation (tree plantation, banana trees, betel nut tree, lemon trees etc.) has been done in CD block Tufanganj-II and remaining 45.5 percentage work was done for well digging, weed clear and drainage cleaning. The study reveals that the all works done for rural infrastructure related to road repairing in CD block namely Dinhata-II, Koch Bihar-I, Mathabhanga-II and Mekhliganj. Table-13 focuses majority percentage

of migrant and non-migrant worker are engaged in soil digging for road repairing under scheme.

Table 14: Improvement of Income by MGRNEGS Worker and Status of Migration

Increased income (Rs.)	Migration status (%)		Total (%)
	Non-Migrant	Migrant	
<5000	8.4	26.3	34.7
5000-10000	23.4	34.7	58.1
>10000	1.8	5.4	7.2
Total	33.5	66.5	100.0

Source: Field study

The study focused that out of total 58.1 percentage households who engaged in this scheme they improved their income. As a result, 66.5 percentage worker who are migrated they improved their family income. Table-14 shows 23.4 percentage of non-migrant respondent who improved their family income Rs. 5000 to 10000 after receiving this scheme in the district.

Perception of MGNREGS Workers

MGNREGS is a major rural employment generation scheme. A major cause of migration is a lack of employment opportunity in the rural area so MGNREGS which generates rural employment should adversely affect rural-urban migration. Our study considered a different aspect of MGNREGS to analyse its impact on sample household (Kumar and Deogharia, 2017). The beneficiaries earned from MGNREGS which benefits of the rural assets and rural infrastructure development (Mishra et al, 2014). About perception of beneficiaries works under the scheme indicates its effectives on socio-economic condition as well as migration in the district. For the satisfaction of the work under this scheme is done on the basis of working distance, number of working days, frequency of work and wages as on excellent, good, fair and poor. Out of all workers 45.8 percentage of worker under the scheme answered that their satisfaction is good, whereas is only 6.6 percentage in excellent. There was mixed response of wages under the work, 36.2 percentage have felt it was fair wages not excellent at all. It is in this context the study asked about the number of working

days in a financial year of the scheme and only 12.6 percentages of the beneficiaries have received a good number of working days. It shows only 4.2 percentage of the respondents is engaged more than 61 days to 100 days work in the 2017-18 financial year of the district. According to MGNREGS Act the work should be within the 5 km radius of the villages and more than 5 km it will need extra paid to the worker. Majority of the participants (79%) their view on the working distance is good in the district (Table-15).

Table 15: Perceptions of Beneficiaries of MGNREGS Workers

Level	Working Distance (%)	Working Days (%)	Frequency of Work (%)	Wages (%)	Overall Satisfaction (%)
Excellent	3.6	12.6	1.2	9.2	6.6
Good	79.0	33.5	36.5	32.9	45.8
Fair	15.0	22.2	16.8	36.2	22.2
Poor	2.4	31.7	45.5	21.7	25.4
Total	100.0	100.0	100.0	100.0	100.0

Source: Field Study

Impact of MGNREGS on Employment and Migration

The study focused that after working under the MGNREGS programme, the number of labour days was increased. Out of total all households 7.2 percentage of them has increased their household working days 50 days to 100 days per year and remaining 92.8 percentages of them increased up to 50 days in the same year. The implementation of the scheme has been of much help to the needy households by providing employment about 83.9 percentage respondents. Out of them 66.5 percentage have under the out-migration category. A similar observation has been made by Harish *et al.* (2011) in their study, before engagement of this programme the sample households were employed on their own-farm which extended of 35 percentage of their total number of working days in a year. The number of day's beneficiaries worked under MGNREGS programmes affected by the factors like status of out-migration, age, gender, monthly income, status of job card holder, number of job card and frequency of work to analyse the relationship between the number of days beneficiaries worked under the scheme and the selecting factors.

Table 16: Factors of Number of Days Beneficiaries Worked under MGNREGS Programmes

Model (Ya)	Unstandar- dized Co- efficients		Standar- dized Co- efficients	t	Sig.	95.0% Confidence Interval for B	
	B	**Std. Error**	**Beta**			**Lower Bound**	**Upper Bound**
(Constant)	1.614	3.563		.453	.651	-5.415	8.643
Out-migration	-3.058	1.527	-.082**	-2.003	.047	-6.070	-.046
Age	.019	.049	.014	.387	.699	-.078	.116
Gender	3.806	1.826	.074**	2.084	.038	.204	7.408
Monthly income	.000	.000	-.079**	-2.085	.038	-.001	.000
Job card holder	3.440	2.880	.073	1.194	.234	-2.242	9.122
Number of job card	2.742	.912	.125**	3.008	.003	.944	4.541
Frequency of work	6.919	.445	.745***	15.546	.000	6.041	7.797

**p<0.05 and ***p<0.001 is significant at 95 and 99 per cent confidence level
Source: Authors own calculation is based on field survey.

The above Table-16 shows the variables like age and job card status of the beneficiaries were not-significant, indicating they are not significantly impact to the change in the dependent variable of number of days beneficiaries worked under MGNREGS. But, the co-efficient of other variables like status of out-migration, gender, monthly income, number of job card holder of the family and frequency of work under MGNREGS were significant. The coefficient for the status of out-migration for the variable was -.082, indicating that if the worker was out-migrant, the number of working days under the programme decreased by 0.082 days. Similarly, for gender, the coefficient was .074, indicating if a worker was male, and the number of working days in the scheme was increased by .074 days. The coefficient of the monthly income was -.079 indicating that if the household income increased, the number of working days decreased by .079 days. The coefficient value of number of job card in the family was .125, implying that if the number of job cards of the adult member family increased, the number of days of work under the scheme increased by .125

days. The coefficient value of frequency of work per year indicating, if a worker received more than 5 times in a year, the number of working days increased by .745 times. The adjusted R^2 value for the model () was 0.779, indicating a good fit, explaining 77.9 percentage of the total variations in the dependent variable (Table 16).

Impact of MGNREGS on Income and Migration

The above Table 11 shows after working with MGNREGS programme 34.7 percentages of out-migrant beneficiaries increased their income up to 10000 rupees whereas it was 23.4 percentages of non-migrant respondents in Koch Bihar district. It is also important to note that overall 7.2 percentages of the total respondents in the district have to increase up to 30000 rupees per year. Interactions with the workers of the scheme clear that; they have to preference to the work under the programme been only after the agricultural season.

Table 17: Factors of Workers Income from MGNREGS Programme

Model (Yb)	Unstandar-dized Co-efficients		Standar-dized Co-efficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	682.533	740.196		.922	.358	-777.525	2142.590
Out-migration	-869.538	317.159	-.124**	-2.742	.007	-1495.144	-243.932
Age	-2.883	10.248	-.011	-.281	.779	-23.098	17.331
Gender	946.437	379.317	.098**	2.495	.013	198.225	1694.650
Monthly income	-.092	.047	-.082**	-1.959	.049	-.185	.001
Job card holder	378.361	598.366	.043	.632	.528	-801.933	1558.655
Number of job card	461.014	188.543	.111**	2.445	.015	89.082	832.947
Frequency of work	1270.939	92.457	.727***	13.746	.000	1088.564	1453.313

**p<0.05 and ***p<0.001 is significant at 95 and 99 per cent confidence level
Source: Authors own calculation is based on field survey.

The annual income from MGNREGS was determined on the contributing factors like status of out-migration, age, gender, monthly income, status

of job card holder, number of job card and frequency of work to analyse the relationship between income and contributing factors. The coefficient value of migration statues (-0.124) was negative, indicating an inverse relationship between wages earn (dependent variable) form MGNREGS and migration (independent variable). This inverse relationship identified due to out-migration the chances of earned from MGNREGS decreases by -.124 times. The coefficient value of gender was positive, implies that participation of male respondents of the households increased the incomes by 0.098 times. It is interesting to note that higher the family incomes, chances to earn from MGNREGS is low. The coefficient value of number of job card (0.111) in the family indicates positive relative relationship to increase the wages under the scheme. Another important variable the frequency of work in year highly positively correlated with wages earn from MGNREGS. The adjusted R^2 value for the model () was 0.731, indicating a good fit, explaining 73.1 percentage of the total variations in the dependent variable (Table 17).

Conclusions

MGNREGS has huge criticism on the quality and sustainability of asset creation for the livelihood development in rural India. It is an ecological act which creates sustainable through income generation among the rural peoples in the country where the unskilled workforce easily accessible to the minimum job opportunities. The government of India invested huge amount in the last financial years, but the outcomes are not up to the mark. In conclusions we may say that there is no doubt that this is a grass root level program but still there are many inherent problems in this scheme. The government should think increasing the number of working days, wages, and frequency of work which will help to reduce the out-migration from rural Koch Bihar district.

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