Temporary Migration, Network and Livelihood: A Study from Rural Odisha

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BY

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CERTIFICATE

This is to certify that the thesis entitled '**Temporary Migration, Network and Livelihood: A study from Rural Odisha'** submitted by Ananda Meher bearing registration number 15SEPH13 in partial fulfillment of the requirements for award of Doctor of Philosophy in the School of Economics is a bonafide work carried out by him under my supervision and guidance. This thesis is free from plagiarism and has not been submitted previously in part or in full to this or any other University for award of any degree or diploma.

Parts of this thesis have been:

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Further, the student has passed the following courses during his M.Phil programme towards the fulfillment of the coursework requirement for Ph.D.

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DECLARATION

I, **Ananda Meher,** hereby declare that this thesis entitled, "**Temporary Migration, Network and Livelihood: A study from Rural Odisha"** submitted by me under the supervision of **Dr. G Vijay** is a bonafide research work which is also free from plagiarism. I also declare that it has not been submitted previously in part or in full to this University or any other University or Institution for the award of any degree or diploma. I hereby agree that my thesis can be deposited in Shodhganga / INFLIBNET.

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Dedicated to

My Parent and Sisters

CONTENT

Short term	ABBREVIATION
NSS	National Sample Survey
UPR	Usual Place of Residence
CMM	Cohort-based Migration Metric
GDP	Gross Domestic Product
NGO	Non-Government Organisation
NELM	New Economic of Labour Migration
SC	Schedule Castes
ST	Schedule Tribes
OBC	Other Backward Classes
OC	Other Castes
MLLR	Multilevel Logistic Regression
GSDP	Gross State Domestic Product
BPL	Below Poverty Line
MPCE	Monthly Per-capita Consumption Expenditure
HH	Households
LL	Land Less
MF	Marginal Farmer
SF	Small Farmer
MDF	Medium Farmer
LF	Large Farmer
LR	Logistic Regression
PP	Predicted Probability
OR	Odd Ratio
KBK	Koraput Balangir Kalahandi
KM	Kilometer
RCC	Reinforced Cement Concrete
LPG	Liquefied Petroleum Gas
KG	Kilogram
PMGAY	Pradhan Mantri Gram Awas Yojana
BPGY	Biju Pakka Ghara Yojana
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
IDI	Income Diversification Index
HI	Herfindahl Index
PCA	Principal Component Analysis
ATE	Average Treatment Effect
FCI	Financial Capital Index
PCI	Physical Capital Index
HCI	Human Capital Index
LCI	Livelihood Capital Index
GLM	General Linear Model
OLS	Ordinary Least Square

MFI	Microfinance Institutions
ML	Maximum Likelihood
SDG	Sustainable Development Goal
HDI	Human Development Index
MPI	Multi-dimensional Poverty Index

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Chapter I

Introduction

Migration Theory and Empirical Evidence of Temporary Migration in India

1.1 Introduction

India is in the middle of transformation from a rural agrarian to an urban-industrial and service led mode of production. Under the current capitalist production, many people are driven out of agriculture and settle their habitat in the urban center. In a developing country like India, unskilled migrant workers are engaged in the urban informal sector. The economic distress in rural area is one of the main reasons of migration to the urban's informal side. At the same time, the unfree agrarian relation prolongs the misery through an interlinked market structure. The socio-economic distresses in the rural area forced them to migrate to the urban informal sector, and again they stock in the urban's informal sector in another unfree system, which Breman called "neo bondage" (Breman J. , 1996), (2013). The studies on informal urban economy explain the cursive and exploitative nature of employment. He exposes the urban informal sector employment as neo bondage. In the late twentieth century, the socio-economic transition in south Asia confines a large-scale migration from rural to the urban center in search of their livelihood. However, a complete lack of institutional support, uncertain work tenure, dismal condition at the workplace and long working hours along with low wages have perpetually forced them to return to their place of origin, turning labour migration into labour circulation process (Breman J. , 2004) (2009) (2015).

It is no doubt that the remittances have somewhat improved the standard of living of thousands of migrant families. Migration helps to generate incomes, smoothing the consumption spending and improve the food security of most unskilled labourers. Remittance is also an essential way of financing the social ceremony and agriculture in rural area. Migration is considered a limited opportunity in the household's lifecycle: as sons' approach working age, the head of the family stays in the village to look after the farm and other farm related enterprises. The migration is an important and deliberate household strategy to maintain and improve livelihoods in rural area. So, it requires to move out from the negative analyses that view migration as a symptom of distress and start thinking about its benefits for poverty reduction (Deshingkar, Kumar, Chobey, & Kumar, 2006) (Deshingkar, 2017).

The world development report shows that labour migration increases the earnings opportunities of people. It also shows that labour migration contributes to economic growth by improving income equality. Since the 1960s, rural-to-rural migration flows have been more than twice then the migration from rural to cities in India. Rural-rural migration reported around 62 per cent of all migration in 1999–2000. Workers from poor states like Bihar, Orissa, Rajasthan, and Uttar Pradesh regularly migrate to the green revolution part of Gujarat, Maharashtra, and Punjab to work as farm labourer (World Development Report, 2009).

In contrast to the world development report and Deshingkar argument; the temporary migration is continuous mobility that repeats over time, rarely upgraded by getting skilled or bringing back savings that can be used for productive investment leading to a more assured economic condition. Circulation is the best survival strategy, a path taken to cope with the risk of unemployment and the lack of means for subsistence (Breman J. , 2009).

Further, Deshingkar argues that there are minuscule of seasonal migration to the brick kiln, cane cutting is distress in nature, but the rest of the migrants have improved their livelihood condition (Deshingkar & Start, 2003) (Deshingkar, 2004). This study tries to understand the reason behind the diverse pattern of migration. Does this diverse pattern of migration relate to the knowledge and technical skill of migrant? The Neoclassical economists have assumed free movement of the people by the wage difference and income gap, even discard the existence of any institution, like the migration network. The significance of migration network have increased in the current period to understand the expansion and endure the process of migration (Granovetter , 1973) (Wegge, 1998) (Haug, 2008) (Haas De, 2010). The network increases the likelihood of migration by lowering the costs and risks of mobility and increase the expected gain out of migration (Stark & Jakubek , 2013).

The informal employment contracts and labour relations seem to increasingly connote surplus formation through cost-cutting—that is, the surplus generated in the realm of circulation—as against formal, which may suggest a mode of surplus formation consequential to enhanced productive powers of factors and, therefore, happens in the realm of technical relations of production (Gudavarthy, 2005). In this regard, the migration networks are part of the cost-cutting institution for the firm. In contrast to the information sharing and risk management argument of migration network, Breman has exposed the existence of intermediary institution (middleman or labour contractor) in the migration process and also explained the reason behind the active involvement of this institution in exploitative employment of urban informal sector (Breman J. , 1993); (1996); (2013).

In this contradictory debate on migration and its impact on migrant households, this study tries to find out the reality through field investigation in rural Odisha. It has included a time variable into the analysis of livelihood approach of migration. Does the migration have any significant improvement in livelihood condition of migrant households across different group (destination occupation) of migrant? Does this improvement have a result of their history of migration? Secondly, it investigates the diverse migration pattern across the socio-regional group and the factors behind their development and sustaining of these various migration streams? Do these diverse migration streams are inclusive or exclusive? Lastly, we combine all three aspects; livelihood, history and stream of migration, to understand the impact of migration on livelihood condition.

1.2 Importance of Migration Research

Migration is mainly related to the broader range of global economic, social, political and technological revolutions touching a wide range of policy issues. Human migration involves people's mobility from one place to another with purposes of inhabiting, permanently or temporarily, at a new location (geographic region). Mobility over long distances place and from one country to another is called international migration. It is also possible to migrate within the country territory; is called internal migration.

1.2.1 International migration

The pattern of international migration: during the mercantile period, from 1500 to 1800, the mobility of people across world was dominated by Europeans. The farmer, administrators, artisans, entrepreneurs, and offenders left Europe in large numbers. During the industrial revolution which also referred to as the first period of economic globalisation, an estimated 48 million emigrated which is around 10 and 20 per cent of the population of Europe. The post-industrial period characterised by new forms of migration. People began to migrate from lower-income countries to high income countries (World Development Report, 2009). The projected number of international migrants has increased from 150 million (2.8% of the world population) in 2000 to 272 million (3.5% of the world's population) in 2020. About 52 per cent of international migrants were male; 48 per cent were female. Around 74 per cent of all international migrants were coming in working age (20–64 years). India had the largest number of migrants living abroad (17.5 million), followed by Mexico and China (11.8 million and 10.7 million, respectively)(World Migration Report, 2020).

1.2.2 Internal Migration in India

Historically people have moved in search of work, in reaction to environmental shocks and tensions, to escape religious discrimination and political struggle. The Census of India defines that "the internal migrant as a person who has changed his/her usual place of residence to another place (change in Usual Place of Residence or UPR definition)". The National Sample Survey Office (NSS) restricts itself to this UPR definition of census. In both the surveys (NSS and Census), "*a resident is defined as one who has been staying in a location for six months or more*". The thesis uses the UPR definition of an internal migrant.

India's total population was 1.21 billion as accordance to current census 2011. Internal migrants in India comprise 309 million or 30 per cent of the population (Census of India, 2001), and by more recent estimates, 326 million or 28.5 per cent of the population (NSS 2007–08). The major origin states of internal migrants are Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, Andhra Pradesh Chhattisgarh, Jharkhand, Odisha, Uttarakhand and Tamil Nadu. The main destination areas are Delhi, Maharashtra, Gujarat, Haryana, Punjab and Karnataka. The actual estimation of short-term migrants varies from 15 million (in NSS 2007–08) to 100 million (Deshingkar & Akter, 2009). However, the macro surveys like Census fail to capture short-term migrants' flows satisfactorily and do not record the second reason for migration.

A new Cohort-based Migration Metric (CMM)—shows that the annually inter-state labour mobility is averagely 5-6 million people between 2001 and 2011 per year, yielding an inter-state migrant population of about 60 million and inter-district migration as high as 80 million. The first-ever estimates of internal work-related migration using railways data for 2011-2016 indicates that the annual average flow of migration was close to 9 million people between the states and it is accelerating over the period. In the period 2001-11, according to Census estimates, the annual rate of growth of labour migrants nearly doubled relative to the previous decade, rising to 4.5 per cent per annum in 2001-11 from 2.4 per cent in 1991- 2001. There is also a doubling of out-migrants to 11.2 million in the 20- 29 years-old cohort alone in 2011-16 (NITI Ayog, 2017).

There is a vast population of India, which direct or indirectly depends on migration for their livelihood. Across the scholar on migration have accepted that migration is a crucial component of livelihood for poor households in rural India. However, the debate concentrates on whether migration has improved the livelihood condition of migrant or is to sustain their livelihood. The global international remittance has also increased from 126 billion dollars to 689 billion dollars in the same period (World Migration Report, 2020). An independent study scrutinizing

the economic contribution of circular migrants in India discovered that, the migrants contribute 10 per cent to the national GDP (Deshingkar & Akter, 2009).

1.2.3 Internal Migration in Odisha

The Cyclical migration (short-term and seasonal migration) for employment is 7.1 per cent of the working-age individual in rural Odisha, whereas it is 4.1 per cent in rural India. The cyclical migration rate among working-age individual in our survey district (Balangir, Baleswar & Ganjam) is 17.4, 5.2 & 12.9 per cent correspondingly (NSS 2007-08). The percentage of households depends on cyclical migration is 19.5 per cent in rural Odisha, and it is 27.8, 19.4 & 29.7 in our three-survey district Balangir, Baleswar and Ganjam respectively. The Economic survey 2017 illustrates the high out-migration rate from Balangir and Ganjam district of Odisha (NITI Ayog, 2017).

Census 2011 report that 15.4 million individuals were migrant and 8.5 lakhs are inter-state migrants; this migration includes female migration for marriage. There is a lack of correct information regarding the internal migration of Odisha. Unofficial sources claim that 2.5 million people are migrating for employment in Odisha (Daniel, 2020). One NGO, ActionAid estimates that nearly 200,000 people migrate from Western Orissa to brick kilns surrounding major cities of Andhra Pradesh. Migration from Ganjam district to cloth industry of Surat also contributes a significant chunk of migration of Odisha. A study by Jagori, an NGO in Delhi, estimate the number of Oriya worker in power loom of Surat is roughly 100,000 in 2001 (Jagori, 2001). It is projected that there were approximately 800,000 Oriya labourers in Gujarat, of which 80 per cent work in the power loom and diamond polishing industries in and around Surat (Narasimham, 2004). It has increased to around 900,000 Oriya migrant workers in Surat, of whom 600,000 are from Ganjam district alone in 2008. The majority of migrants belonged to the other castes (i.e. upper castes), and a much smaller proportion belonged to the scheduled castes and tribes (Nayak, 1993), (Sahoo, 1993).

In this regard, the research on migration touches millions of poor people living situation. It is very much essential to understand the future trend and pattern of migration as well. From the policy perspective, research on migration is crucial to remove poverty, unfreedom, distress and improve poor masses' livelihood condition. Migration is very much vital to the sustaining of livelihood in rural Odisha as well. The research findings on causes, impact and pattern of migration will help in policy suggestion for a vast population of Odisha specifically and India, in broadly.

There are diverse arguments on decision, pattern and impact of migration. This diversity is very much evidence based on their theoretical understanding. The new classical theories contradict Marxist scholar ideas on migration, whereas the NELM and livelihood approach follow the middle path between new classical and Marxist beliefs. The following section explains the review of each theory and their corresponding argument concerning to decision, pattern and impact of migration.

1.3 Theoretical Debate on Migration

The debate on internal cyclical migration categories into four groups; Firstly, the discussion concentrates on who takes the decision of migration; whether Households or Individual takes the decision of migration. Secondly, the factor affecting migration decision; this debate extended to the push-pull factor of migration. Thirdly, the impact of migration at their origin and destination place. Fourthly, the origin and development of the migration network and diverse pattern of migration. The whole of our debate on migration is concentrated on the internal cyclical migration specifically to Indian context. Different schools of thought have different answers to these questions.

(Ravenstein, 1885) Ravenstein first time studied the migration pattern and trend from census data of the United Kingdom. People migrate from the underdeveloped region to more developed and industrialised area. People migrate more to the city located in the country's central position than the city situated border area. More people have migrated temporarily due to their distress and compulsion and are involved in informal activity as hop-picker and agricultural labourer. In gender analysis of migration, it has found a very shocking pattern in woman migration; it showed that women were more significant migrants than men and mostly migrated into domestic service. Further, Lee has developed a different set of hypotheses for a different angle of migration. In the volume of migration, 1- diversity in the area, a high degree of difference among the regions should result in a high migration rate. 2- Diversity of people, higher the inequality among the people at origin place in terms of race, education, income, or tradition, than greater the volume of migration. 3- Fluctuation in the economy, this hypothesis states that the volume of migration depends on their demand in the destination area, depending on the market condition (Lee, 1966).

1.3.1 New classical Theory

The mainstream economist like Lewis, Fei-Ranis and Harris-Todaro have suggested rural-urban migration as an alternative solution to the rural problems. Development of urban manufacturing sector has unlimited demand for labour and the surplus of agricultural labour migrate to the urban area due to higher real wage than agricultural wage (Lewis, 1954). Lewis has elucidated the economic development through rural-urban migration. When there is a development of the urban manufacturing sector, the demand for labour and wage rate increases. To meet the demand of labourer, an unlimited surplus of agricultural labour migrates to urban areas. The development of manufacturing sector pulls the development of agricultural sector and the productivity of labourer increases. However, Lewis's development model could not explain interlinkages between the agricultural and manufacturing sectors, increasing urban unemployment rate and slow rate of rural-urban migration.

To answer the problematic parts of the Lewis model, Gustav Ranis and John C. H. Fei have developed the model as "*A Theory of Economic Development*". They have divided the Lewis unlimited supply model into three stages. In the first stage, the Lewis model of development work, in which MP (marginal productivity) of labour is less than equal to zero. In the second stage, the MP is less than the wage rate but greater than zero. So, labour migration leads to decreases in total output and increases the relative price of agricultural product. In the third stage, agriculture is commercialised, and the wage paid in accordance to their MP. Migration affects not only total output but also increases urban as well as rural wage rate (Ranis & Fei, 1961).

The Lewis-Ranis-Fei model of economic development and rural-urban migration did not touch the question like increasing urban unemployment rate and the slow rate of rural-urban migration. (Todaro, 1969) this paper attempts to answer the high urban unemployment question through the two-stage process in the urban employment system. In the first stage, unskilled rural workers migrate to the urban area and spend some period in the urban's traditional sector (urban informal sector). When labour reaches the second stage, eventually they get a permanent job in the urban sector. So, rural-urban migration may happen even if the short run urban wage is less than rural wage, but they benefit from migration in the long run. So, rural-urban migration depends upon the urban-rural expected income gap and the probability of getting an urban job (Harris & Todaro, 1970).

Cole & Sanders has criticised the migration model that the Harris and Todaro model fails to explain the migration of illiterate and unskilled labourer. The unskilled labours have zero

probability of getting urban modern (U-M) sector due to lack of skill, or their skill does not qualify minimum criteria of U-M sector job. People migrate with information about their skill and the industry of employment. So, the educated and skilled labourers migrate to work in the U-M sector, and unskilled labourers migrate to work under the U-S (urban subsistent) sector (Cole & Sanders, 1985). Lucas (2004) have revived the new classical theory on rural-urban migration. Lucas theoretical explained that "*the rural-urban migration—urbanisation—viewed as a transfer of labour from traditional, land-intensive technology to a human capital–intensive technology with an unending potential for growth*". He emphasises the cities' role as a place where new immigrants can accrue the skills requisite for modern production technologies (Lucas, 2004).

The new classical theory of migration is developed on all classical assumption as perfect information and marginal productivity. It suggests that the wage and earning gap is the main factor in migration decision. The individual is taking the migration decision. Migration has a positive impact on origin (Rural) wage rate and a negative impact on destination (Urban) wage rate.

1.3.2 Marxist idea on Migration

In contrast, to the structuralist model of economic development and migration, the Marxist scholar like Breman argues that the distress and force factors behind the migration decision. His research on migration in the last five decades clarifies the current and changing migration pattern in rural India. Migration breaks their caste identity and patronage relation of bondage, but the migration process is slow for the structural change. But local and migrant fight themselves for employment and cheaper wage. By alienation from means of production and thrown out from the village, the agricultural labourer, both local and migrant, fighting within his social setting and creating a new untouchable class (Breman J. , 1985). Migrants are working only in the informal sector as semi-skilled and unskilled labour. Semi-skilled labours are permanently migrating to work in the Diamond cutting, cloth loom sectors. Most of the Halpati are migrating to work as unskilled labour in brick kiln and construction sectors. Halpati is migrating not due to economic factors but due to repayment of debt. The wage is no longer differ between local and migrant unskilled worker. Some worker has to come second and third year to repay their one-time advanced payment. The Halpati is seasonally bondage under the brick kiln owner due to the advance payment (Breman J. , 1996).

Breman strongly opposes formal-informal dualism; Informality is now a global labour market structure. The informal labourers are available in rural economies in the current and the past as

well. He also strongly criticises the Gandhian utopia of the rural village economy. At the same time, he disagrees that migration to the urban economy will give a progressive formalisation of labour arrangement. The second misconception of duality that the labourer of informal sector manufacture goods and service for themself. The reality is another way around; many formal sector commodities find their way to informal sector customer. Further, many formal sectors production process is outsourced to the informal sector to minimise cost. The third dualism is modernity versus traditionalism; the informal sector is a traditional or per-capitalist mode of production. It will disappear with the development of modernity or capitalist mode of production. Nevertheless, informal labour exists and developing its roots in the capitalist mode of production. The capitalist mode of production uses informal work to avoid regulation and minimise the production cost (Breman J. , 2013, p. 20).

In the debate on the impact of migration, Breman argues that migration is crucial for sustaining the rural poor in the current livelihood condition. The low resource base of rural population forced the them to migrate and participate in other destinations to work long hours at low wage rates is a direct result of their helplessness to qualify for a better type of jobs to earn higher incomes at home. Majority of people, poorly educated or illiterate, labour circulation is not a free choice. Moreover, it is an ongoing process and repeats again and again. They rarely acure skill or bringing back savings which can be used for productive investment to generate a more secure economic opportunity. Circulation is at best a survival strategy, a route taken to cope with the threat of unemployment and the lack of means needed to keep the household going on (Breman J. , 2004) (2009) (2015).

The Marxist scholar idea that migration is not generating great prosperity; instead, it reemphasises the old relation of production in a new form. The rural distress as lack of survival prospect, indebtedness and employment opportunity are the main reasons behind migration decision. The households as a unit decide who will migrate to sustain their living condition. The pattern of migration is mainly determined through the chain migration process. On the impact of migration, they argue that migration is crucial for survival in the current socio-economic condition.

1.3.3 Dual Labour Market Theory of Migration

Piore has questioned the existing neo-classical theory of migration and point out some of the questions on the trend and low wages of migrant labour, which the existing theory could not answer. The dual economic theory of migration elucidates that the migrant labourer compliments local labourers rather than being a substitute. Most migrant (international

migrant) are employed in such sectors that are socially low graded in destination country but are essential in the economic functioning. Due to low graded job, none of the local labourers is interested in performing with a low wage. The demand for labourer for these activities could match through the international migration of labourer. It hypothesizes that the labour demand decides the destination place and sector to which they will migrate, and from the secondary data on migration trend, he has proved it (Piore, 1979). This dual labour market theory gives new direction and understanding of migration theory and process. He seriously criticises the destination industry's job hierarchy, where the migrants are massively employed in a low-status job temporarily. However, the native labourers are employed in a high paid job. So, the employer and employment decide the immigration pattern (Massey, et al., 1993).

This relation between the demand for labourer and migration pattern is impossible to see once a migration flow has become well established because by then, it is self-sustaining. It requires an in-depth historical study to find out these migration process. The structuralist has argued four critical points in explaining migration system as 1) a part, 2) active recruitment of employer, 3) unlimited supply, 4) difficult to halt. In contradiction to the structuralist argument, it has argued three prominent factors of migration as 1) labour shortage, 2) need to fill the bottom position, 3) meets the requirements of the secondary sector of a dual labour market. Secondly, the development of migration theory also paradoxical of the conventional Marxist wisdom, "*the migrants are called upon not because the system is capitalist but because the system is quasi-capitalist. Furthermore, it is not simply the quasi-capitalist nature of the system that creates migration; rather, the co-cultural factors also play a major role. The social function could be such that the economic function is not allowed to operate at all"* (Haas, 2010). The division and hierarchy among the labourer based on socio-cultural factors divide the working class and postpones revolution that would otherwise be inevitable.

This migration process starts with the temporary migration and ends with the permanent migration. The next generation of permanent migrants are not interested in continuing their parental occupation. As the migrants engage in a low-status job that native workers leave behind, the debate of competition between the migrant and native is a myth, rather the migrant complement to native employment. There is a chance of competition between the future generation of migrant worker and native worker if the migrant worker will settle permanently in the destination. Secondly, the migrant worker wage is always just the minimum wage, and there is no relation between the increasing wage rate of native worker with migrant worker wage rate. But in the opposite case, i.e. a slide increase in migrant worker wage push native

worker wage faster. This wage rate relationship between the native and migrant worker is because of their hierarchy in the job.

1.3.4 New Economics of Labour Migration (NELM)

The NELM theory tries to rationalise the temporary and chain migration through occupation diversification and relative income difference argument. This theory is based on migration behaviour and relative income comparisons within their reference group. This comparison generates psychic cost or benefits, feeling of relative deprivation or relative satisfaction. People migrate to change their relative position in the group or to change their reference group. In the Author argument, "*if a reference group characterised by more income inequality is likely to generate more relative deprivation and higher propensity to migrate".* Under this theory, the decision of migration is taken jointly by migrant and non-migrant member of the family. This migration system is self-perpetuating. Once it is started, the position of migrant households will increase in their reference group, leading to relative deprivation for non-migrant families and the second group will start migration (Stark & Bloom , 1985).

Further, empirical studies have also proved this argument. The relative income hypothesis on migration was verified from a survey of rural Mexican households (Stark & Taylor , 1991).The positive relationship between income inequality measured in term of the Gini coefficient and the incentive to migrate at a given level of population income (Stark, 2006). It has further extended to social factor. The migration also occurs to escape social deprivation (Fan & Stark , 2008).

The theoretical development suggests that rural-urban migration is perfectly rational even if urban expected income is lower than rural income. It is for rational under risk eversion person. Firstly, a slight chance of earning a high reward in urban income is sufficient to trigger rural-urban migration. Secondly, the high uncertainty of earning eventually decreases when the migrant participates in an urban job. The analysis assumes that the capital market imperfection in rural area and migration earning is mainly channeled into investment activity (Katz & Stark, 1986).

The migration process in response to relative deprivation reaches a steady-state, but it is impossible to realise this steady-state point because of the simultaneous changing rank of each individual in the group in response to others (Stark & Wang , 2000). The migration network theory has put a counter-argument that migrants offer assistance and support to the new migrants. NELM explains that the migration system works through two skills: skill spillover

effect and skill separation effect. The skill spillover effect explains that working with a large group of high-skilled workers increases productivity and, thereby, the high skill worker's wage. The skill separation effect signifies that working with a large group of low-skilled workers distinguishes a high-skill worker and renders his skills relatively more scarce and more valuable, raising his wage. Due to the skill separation effect, the high skill worker encourages the low skill worker to migrate and join with him in work (Stark & Wang , 2002) (Stark & Jakubek , 2013).

NELM support the new-classical theory of migration with some modification. NELM accept that migration is a rational decision of the households rather than the individual. Migration is the results of the push factor but not because of the distress. The family also engage in migration due to relative income difference, not due to lack of absolute income (Stark, 2006) (Stark, 2011) (Fan & Stark , 2008). It has shown that migration has a positive impact on investment and human capital (Taylor , 1999) (Stark & Taylor , 1991) (Stark , Helmenstein , & Prskawetz , 1997) (Stark, Helmenstein , & Prskawetz , 1998). In the migration pattern argument, NELM theory accepts the impotence of migration network in destination choice (Stark & Jakubek , 2013) (Fan & Stark , 2008). The perpetuation or chain of migration from a specific region is due to relative deprivation (Stark & Wang , 2000).

1.3.5 Livelihood Approach to Migration

Migration and livelihood interconnect with each other. Breman states that migration is crucial to sustaining the livelihood in current socio-economic condition (Breman J. , 2004); (2009); (2013). At the same time, it is also argued that migration has a positive impact on livelihood condition of the migrant households (Deshingkar & Start, 2003); (Deshingkar & Akter, 2009); (Deshingkar, 2004); (Deshingkar, Khandelwal, & Farrrington, 2008); (Haan De, 1999); (Haan De, 2002); (Haan De, Brock, & Coulibaly, 2002). It is essential to understand the livelihood approach to migration.

The word `livelihood' is used in many different ways. The following definition captures the broad notion of livelihoods; "*A livelihood comprises the capabilities, assets (including material and social resources) and activities required for a means of living. A livelihood is sustainable when it can cope with and recover from stresses and shocks and maintain or enhance its capabilities and assets both now and in the future, while not undermining the natural resource base"* (Chambers & Conway, 1992) (DFID, 1997). Serrat defines, "*The livelihood framework identifies five core asset categories or types of capital (financial, physical, human, social and natural) upon which livelihoods are built (Scooner, 1998).*

Livelihood includes Human capital (health, nutrition, education, knowledge and skills), Social capital (networks and connections, relations of trust and mutual understanding), Natural capital (land and produce, water and aquatic resources, trees and forest products, wildlife, wild foods and fibers, biodiversity, environmental services), Physical capital (infrastructure (transport, roads, vehicles, secure shelter and buildings, water supply and sanitation, energy, communications) & Financial capital (savings, credit and debt (formal, informal), remittances, pensions, wages)" (Scooner, 1998) (Serrat, 2017).

Other agencies like the United Nations Development Programme (UNDP), Oxford Committee for Famine Relief (OXFAM), and Cooperative for Assistance and Relief (CARE) have different methods to calculate livelihood. The UNDP focuses on technology as a means to help people to rise out of poverty. CARE's fundamental emphasis on household livelihood security linked to basic needs. Its livelihoods approach focuses on the programme, which helps the poorest and most vulnerable. These livelihood approaches less emphasises on its framework, structure, processes and macro-micro links. Oxfam, Great Britain feels the need for a comprehensive framework that could include topics of environmental change, together with the worries about globalising markets, gender and social inequality, and the need to support deprived people's involvement in the development process (Mishra, 2009).

Scooner has also pointed out four recurrent failings of livelihoods perspective. The first relates to the lack of engagement with processes of economic globalisation. Secondly, the livelihood approach has given minus attention to power and politics and the failure to link livelihoods and governance debates in development. Despite using the word sustainable, it lacks rigorous attempts to deal with long-term secular change in environmental conditions. Finally, a fourth area that livelihood studies failed to tackle with the discussions about long-term shifts in rural economies and questions about agrarian change (Scoones, 2009).

The term livelihood has been used to analyse the environmental impact on the locality. Most of the research on migration uses the term livelihood in place of financial capital (economic improvement). Sometimes the monetary gain (poverty eradication, increase in consumption expenditure, investment & saving) called as livelihood improvement (Rajan & Sarkar, 2020) (Nandi & Sarkar, 2020) (Deshingkar, 2004) (Deshingkar, Khandelwal, & Farrrington, 2008). The migration impact on livelihood is a recent topic of research. Most of the research on migration as a livelihood strategy has started in the post-2000 era. The livelihood approach widely uses by Haan De and Priya Deshingkar in their study of migration. (Haan De, 1999) this paper reviewed existing literature on migration and livelihood. It argues that labour

migration between and within urban and rural areas, has to be seen through the livelihoods of many households in developing countries, poor and rich (most specifically poor). Further, he has investigated the relationship between migration and livelihood in Bihar (Haan De, 2002) and West Africa (Haan De, Brock, & Coulibaly, 2002).

Priya Deshingkar in her research from 2003 to the recent period; strongly support the positive impact of migration on livelihood condition of migrant households (Deshingkar & Start, 2003) (Deshingkar, 2004) (Deshingkar, Kumar, Chobey, & Kumar, 2006) (Deshingkar, Khandelwal, & Farrrington, 2008) (Deshingkar & Akter, 2009) (Deshingkar, 2010) (Deshingkar, 2017). Deshingkar argues that "*Most of the research on migration; portray migrants as victims of failed development without any agency. But conversations with migrants show that their experiences do not fit neatly into such conceptualisations. There are a host of complex social and economic reasons (which are mention above) for migration into construction work including better earnings prospects (higher incomes, more regular work and the ability to remit money home) as well as the desire to experience urban lifestyles and become a modern person"* (Deshingkar, 2017). The internal migration as a critical "path-way out of poverty" for rural households and also a crucial factor to improve the livelihood condition (World Development Report, 2009).

The livelihood approach is neutral about the households' initial condition and has focused on the impact of migration. It assumes that the positive effects of migration outweigh the initial condition in the process of migration. The positive impact of migration will improve the situation of migrant households and improve the local economy. This approach accepts the family as a unit to take the migration decision. It supports the importance of the network in the determination of the migration pattern.

1.3.6 Network Theory of Migration

The network defines as "*nodes of individuals, groups, organisations, and related systems that tie in one or more types of interdependencies: these include shared values, visions, and ideas; social contacts; kinship; conflict; financial exchanges; trade; joint membership in organisations; and group participation in events, among numerous other aspects of human relationships"* (Serrat, 2017). The network has an important function in the course of migration. Migration proceeds with well-defined routes toward a particular destination, and migration create a network between origin and destination. The acquisition of new knowledge or wealth returns to the origin of the advantageous term (Ravenstein, 1885). The migration network is an alternative to the financial constrain of the migrants. The migration network

decreases the transaction cost of migration, and the past migrant financial help the new migrants (Stark & Jakubek , 2013). The empirical evidence also supports the importance of network in the process of migration (Wegge, 1998); (Haug, 2008); in a case study of India (Banerjee B. , 1983); (Neetha, 2003); (Sundari, 2005); (Ramesh, 2012). Migration network decreases the transaction cost of migration and encourages new member of that group to join the migration (Massey, 1990); (Massey, et al., 1993); (Elrick, 2005)

The network theory literature emphasises on the strength of their tie. It has argued that the strong ties confine to a small group or community, but the weak ties play a significant role in the development of network system from chain migration through feedback mechanism (Granovetter , 1973). The community network is more important than the family and personal network to access job opportunity (Winters, Janvry, & Sadoulet , 2001). In contrast to weak ties argument; (Boyd, 1989), this study emphasises that strong ties like family and personal networks are crucial in international migration. Oded Stark argued that "*Network are more likely to consist of individuals who are close to each other in the community of origin (family members, friends) than the individuals who are little related to each other at the origin. Tightly linked communities in the home country are more likely to form larger networks than the communities with loose links"* (Stark & Jakubek , 2013).

Is the network a process to manipulate the decision, or is it only an information and risk-sharing institution? In this regard, Jackson states that "*the network is a service as a channel for informal assurance and risk-sharing, and network arrangement impacts patterns of judgements regarding education, career, hobbies, criminal activity, and even participation in micro-finance. Such heterogeneity in the market means that information can be critical in correctly matching workers to positions*". Social networks fulfil such a role in communicating information to workers about the specifics of various job opportunities and communicating information to firms about the potential fit of different workers, mitigating substantial search frictions (Jackson , 2010). The origin and development of migration network depend on the social capital of pioneer migration (Bakewell , Haas, & Kubal, 2011). The role of feedback system in the various trajectories and stages of migration system affects the construction and expansion of migration network (Haas De, 2010).

In contradiction to the information hypothesis of migration network, Brawley has shown the institutionalisation of migration network by a rent-seeking group. (Brawley & Zorita, 2014) This study concludes that the network has stimulated migration as social work in early decades, but in recent time, network agencies are charging fee for their service, most specific to the

international migration of refugees. In Internal migration, the employee creates labour contractor to meet their demand for labour in Brick Kiln, Cane cutting and other hazardous activities. These labour contractors cannot be neutralised under information sharing institution. The labour contractor plays a significant role in perusing the labourer to migrate (Breman J. , 1985) (Breman J. , 1996) (Gupta J. , 2003) (Ghosh, 2004) (Sengupta & Vijay, 2015).

Further analysis of the network is closely linked with social capital. Employers use employee networks as inspection and motivation tools to improve the excellence of recruitment. The social identity affects are expected to exaggerate compared to information-sharing and other network system (Iversen, Sen, Verschoor, & Dubey, 2009). Social identities gain importance when employers recruit through employee networks. The lack of network among marginalised sections adversely affects their job opportunity in the formal sector (Deshpande & Newman, 2010). The social network also continues in trust, perception which are matter in economic activity. The higher caste person does not buy consumer goods, mostly Vegetable and Milk from SC households because of Impure status. Discrimination operates through the social network (Thorat, Mahamallik, & Sadana, 2010). The socio-geographical based network segregates the labour market; the skill factor becomes less important in employment opportunity and migration (Winters, Janvry, & Sadoulet , 2001) (Mitra & Pradhan, 2016). The network-based employment hurts the skill intensity of job (Iversen, Sen, Verschoor, & Dubey, 2009).

Migration network is very much essential to understand the pattern of migration. The migration network encourages new member of the group to join migration stream through decreases the transaction cost of migration (Stark & Jakubek , 2013), and it acts as a pull factor in the migration decision (Neetha, 2003); (Sundari, 2005); (Ramesh, 2012). The network theory is neutral on households and individual determination of migration and impact of migration. The livelihood approach to migration argues that the development of a migration network depends on the positive outcome of migration. We also found that the employee creates a labour contractor as an intermediary institution to meet their labour demand in hazardous activities. Across the school of thought, accepts the impotence of network in migration pattern. The choice of migration destination depends on the availability of the migration network.

1.4 Migration, Livelihood and Network in India Context

We do not have a data set to understand the internal migration in India. The NSS underestimate the seasonal and cyclical migration. The Census only calculate the long-term migration of population. A new Cohort-based Migration Metric (CMM)—shows that annually inter-state

labour mobility averaged 5-6 million people between 2001 and 2011, resulting an inter-state migrant population of about 60 million and an intra-state migration is as high as 80 million. The first-ever estimates of internal work-related migration using railways data for 2011-2016 indicate an annual average flow of close to 9 million people between the states. Migration is accelerating (NITI Ayog, 2017).

1.4.1 Pattern of Migration

The pattern of internal migration diverse across socio-economic indicators. The studies from NSS data conclude that temporary mobility is higher among the weaker section (economically and socially) of Indian society across the states. It supports the distress driven rural-urban migration in India. So, the temporary and seasonal migration is a compulsion for rural households to generate income in the lean agricultural season (Keshari & Bhagat , 2012).In a further study, Keshari & Bhagat found that the poor, marginalised social group and low educated are highly engaged in temporary migration. Temporary migration is seven times higher than permanent migration in all India level (Keshari & Bhagat, 2013). The 2001 census and NSS 1999-2000 data suggest that the temporary migration rates are high in remote rural areas, mostly among poor people. The high migration rates are found in drought-prone areas, poor access to credit and high population densities (Bird & Deshingkar, 2004). Another empirical study from NSS 64th round and census data shows that *poverty-induced* migration has become a less critical component of mobility over time; instead, migration picks up people from relatively higher economic and social strata (Kundu & Saraswati, 2012). They also found the same results from the 61st round of NSS (1999-00) (Kundu & Sarangi , 2007). Among the social groups, the SC, ST, and OBC have less chance to migrate than the OC group. The household size and landholding explain that the larger household size owning smaller plot of land is more likely to migrate, especially among the small and semi-medium landholding households (Parida & Madheswaran, 2011).

Some researchers have questioned the data collection process as well as temporary migration data of NSS. Micro studies have been conducted around India to understand the pattern of temporary migration. The pattern and features of seasonal labour migration explain through a household level primary survey of Akkaram village of Mahabubnagar district. It has concluded that debts repayment and survival are the primary reason for their migration. More women migrate to the rural area, and men migrate for the urban informal sector like construction, brick kiln, Auto driver, and factory labour (Korra, 2011). The field survey from two panchayats in Tamil Nadu explains that migration is higher among young male, larger households' size and

marginalised section of the society (Dodd et al., 2016) same results found in a micro-study of Odisha (Julich, 2011) (Mitra & Pradhan, 2016) (SWiFT, 2016). The primary survey in Bihar verifies a non-linear association between landholdings and the decision to migrate (Tsujita & Oda, 2012). Micro studies from six villages of AP and MP found that migration is higher among chronically poor groups living in RRAs. It plays a vital role in managing risk and improving living and household wellbeing (Deshingkar, 2010).

The temporary migration is high among the lower class, marginalised section of society, reflecting its distress-driven nature. Most of the scholars accept that the push factors are behind the decision of temporary migration in India. The people also migrate to avoid environmental distress. Households use temporary labour migration as a surviving option to minimise the risk posed by climate variables such as drought, floods, cyclone etc., (Pradhan & Narayanan, 2020); (Singha, Rahmana, Srinivas, & Bazaz, 2018); (Jha, Gupta, Chattopadhyay, & Sreeraman, 2018). Some study also reveals the forced migration to Cane cutting, Brick kiln and hazardous industry (Mishra D. , 2020); (Meher, 2019); (Sengupta & Vijay, 2015); (Majumder, 2015); (Ghosh, 2004); (Gupta J. , 2003).

1.4.2 Impact of Migration (Migration and Livelihood)

There is debate on the impact of migration on origin and destination economy and migrant households. Neo-classical economist states that migration has a positive effect on origin (Rural) wage rate and a negative impact on destination (Urban) wage rate (Ranis & Fei, 1961). The Marxist scholar elucidates that migration is crucial for survival in current socio-economic condition (Breman J. , 2009); (Breman J. , 2004). NELM show that the migration increases the economic situation of the migrant in absolute term, which enhances the relative deprivation between migrant and non-migrant households. The relative deprivation perpetuates or chains migration from a specific region (Stark & Wang , 2000). The network theory is neutral on impact of migration, but the development of network depends on the positive effects of migration in origin place (Massey, 1990); (1993); (Wegge, 1998); (Elrick, 2005). The Livelihood approach strongly supports livelihood improvement due to temporary migration (Deshingkar & Akter, 2009); (Deshingkar, 2017).

The empirical evidence about the impact of temporary internal migration in India is a topic of debate. The migration supports to sustains in chronic poverty or presents an opportunity to move out of poverty (Kothari, 2002). Migration from RRAs can thus become a vital poverty interrupter. It is difficult to define the impact of migration on accumulation because accumulation is of different kinds, being able to spend on social ceremonies and health,

smoothing consumption spending and investing in irrigation. Migration has improved the families' creditworthiness in the village, who can now obtain large loans easily (Deshingkar, 2010); (Deshingkar & Start, 2003). A lot of migration is also driven by the prospect of better opportunities and increase horizons or rites of path for young men and women (Haan De, Brock, & Coulibaly, 2002); (Haan, 2011). There are multipole and complex social and economic purposes for migrating into construction work including better earnings predictions (higher incomes, more regular work and the ability to remit money home) as well as the wish to experience urban lifestyles and become a modern person (Deshingkar, 2017). Migration has a positive impact on occupational diversification and wealth status in West Bengal (Rajan & Sarkar, 2020) and a micro-study of Odisha (Samal, 2006).

In contrast to the positive outcome of migration, the initial condition of the migrant is an essential factor in the kind of migration undertaken, correspondingly the better or worse outcomes (Waddington, 2003). The temporary migration chosen for employment, and income generation is the primary livelihood tactic accepted by the rural women agricultural labours (Nandi & Sarkar, 2020). The enquiry of brick kiln migration concludes that the debt trap and lack of survival opportunity in the post-agricultural season forced labourers to migrate. In exchange for advance payment, the labourer sells themselves to the brick lord, and the advance payment directly went for debt repayment (Majumder, 2015). The migration itself is a source of helplessness because of a lack of operative regulation of employment situations, because of having to set out without any assurance of a job, and because of migrants' lack of powerful associations, or indeed networks of any kind, in the temporary destination area (Rafique, Massey, & Rogaly, 2006). For the large majority of the migrant, labour circulation is not a free choice. "*The circulation is at the best way of survival strategy; a route is taken to cope with the threat of unemployment and the lack of means needed to keep the household going"* (Breman J. , 1996) (Breman J. , 2004) (Breman J. , 2009) (Breman J. , 2013) (Breman J. , 2015).

1.4.3 **Migration and Network**

The network has a significant impact on migration pattern, specifically on destination place and occupation choice. There are very few studies that explain the internal migration of India through migration network. The migrant worker's survey in Delhi, the social network of migrants, gives information and knowledge about employment opportunities in the urban center (Banerji, 1981). The social connection supports both in monetary and mentally to the people in the migration decision (Banerjee B. , 1983). The labour mobility establishes through

networking and the information shared among social, linguistic and castes group or through a contractor (Bharadwaj, 1994). The study of female migration in Tamil Nadu concludes that network work through kinship, locality and caste of their origin place. In Destination, the network helps them in housing, employment, sense of community, and adjusting to their urban situation (Sundari, 2005). The same result also founds in the study of the migrant from northeast to Delhi (Ramesh, 2012). A village study of Odisha found that the social networks between the villagers and the employers strongly determine the decision of migration. These social networks do exist because they pass it from generation to generation and within their families. There is hardly sharing of these network and contacts among other families (Julich, 2011) (SWiFT, 2016). The Indian Human Development survey found that the community network is a crucial factor in migration decision. The Community-based networks in destination areas increase the likelihood of migration to the same destination (Nayyar & Kim, 2018).

The role of the network also institutionalises through intermediary as a labour contractor. The employer creates intermediary institutions (labour contractor) to meet their demand for cheap labourers for Cane cutting (Breman J. , 1985), Brick Kiln (Gupta J. , 2003); (Ghosh, 2004); (Majumder, 2015); (Sengupta & Vijay, 2015); (Mishra D. , 2020) and other hazardous activities (Breman J. , 2013). The labour contractors are not just information sharing institutions but also pursue (forced) the households to engage in migration. There is some noble intermediary institution (Church) which provide information and training to the worker. The study of the domestic worker of Delhi; NGO and Church provides employment information and gives some training and helps to stay up to get a job in the urban center (Neetha, 2003); same outcomes also found in Jharsuguda district of Odisha (Jha V. , 2005).

The network gives an opportunity for the member of some group, but it also excludes members of other groups from participating in migration. The migrant of lower castes (SCs) have a lower probability of joining the relatively better jobs than the higher castes migrant, indicating that migrants from higher castes are better off in the urban job market (Chandrasekhar & Mitra, 2019). The social network also excludes the lower caste person from formal sector job in urban (Deshpande & Newman, 2010) and business activity in rural India (Thorat, Mahamallik, & Sadana, 2010).

1.5 Discussion

The theoretical debate on migration has developed from neo-classical to NELM in decision of migration. The emergence of NELM marked a departure from neo-classical and actor-oriented

approaches towards a household-level based viewpoint which explains migration from the resources constraints and imperfect markets within which migration decisions are made (Haas De, 2010). The impact of migration explains through livelihood approach rather than simple economic gain. Some economist has used livelihood improvement and financial gain interchangeable. The pattern of migration represents through the migration network as information sharing institution. In contrast to this structuralist argument, Marxist group counter that the migration decision is not a simple market imperfection; rather in-depth distress factor plays a crucial role in migration decision. Migration is not generating great transformation or improvement among migrants; instead, it is required to sustain their livelihood in current socio-economic circumstance. The Marxist scholar also accepts the importance of network as an informal institution in the process of migration. This migration network is not only an information sharing institution; rather, it plays a crucial role in perusing households to engage in migration.

The empirical evidence suggests that the temporary internal migration is high among the lower class, the marginalised section of the society, reflecting its distress-driven nature. Most of the scholars accept that the push factors are behind the decision of temporary migration in India. The debate on migration has shifted from decision making to impact assessment. What is the problem even if people migrate under certain distress condition and improve the livelihood condition after migration? Deshingkar has shown the improvement in livelihood condition due to migration. Further, she states that the migrant can accumulates resources, create saving, diversify occupations. In contrast to Deshingkar hypothesis, Breman and Other's micro-studies in different parts of India mention that migration is crucial to sustaining the livelihood in the current socio-economic situation. The empirical study of migration and networks; most of the research accept that the network is an informal arrangement to share information. Some scholars also argue its broader role in pursuing the labourer to migrate a specific destination and occupation to meet the destination's labour demand.

1.6 Research Question & Objective

The analysis of migration decisions from secondary data is confined to individual and household characteristics; some also relate to meso-factors like environmental characteristics. There is a lack of research regarding the macro, meso and micro (households and Individual) factors on migration decisions. The study on the impact of migration compares the current position of a migrant with non-migrant, specifically in the economic variable. And there is a wide gap in research on the livelihood approach to migration. Firstly, it needs to calculate all

five capital (Financial, Physical, Human, Social and Environmental) rather than financial capital. Secondly, the history of migration also considers understanding the significant changes in livelihood due to migration. Thirdly, it also needs to compare the changes in livelihood due to migration across the diverse stream of migration and determine the causes behind the dissimilar impact of migration across the stream of migration.

In the research on Migration and networks; Most of the research confine to understanding the origin and development of migration networks and their impact on migration pattern. There is a research gap in comparison among the migration networks. How could different migration networks exist in one place? Do these different migration networks work through diverse skills or socio-geographical institutions? What is the obstacle to shifting from one migration network to another?

1.6.1 Objective

There is a comprehensive research gap in temporary internal migration In India. Based on the research question, we concentrate on three primary objectives

1- To understand the impact of micro and macro factor in migration decision.

2- To understand the impact of migration on livelihood conditions among migrant households and compare the changes in livelihood across the different migration streams.

3- To understand the impact of the network across different migration streams. What are the obstacles to shifting from one migration network to another?

1.6.2 Hypothesis

- The socially and economically disadvantaged group have a higher chance to engage in migration.
- Migration is higher among more backward regions (per capita income and wage rate) than the relatively developed region.
- Migration has a significant impact on livelihood condition of migrant.
- Migration network is an information-sharing institution.
- Individual free to choose and change their migration networks.
- Education and skill are leading cause behind the origin and development of different migration networks.

1.7 Conclusion

This chapter elucidates the importance of migration research, theories and empirical evidence of temporary internal migration in India. The current debate on migration has shifted from decision to process and impact of migration—migration improve the livelihood condition of migrant households. In contrast, micro studies from different parts of India mention that migration is crucial to sustaining the livelihood in the current socio-economic situation. Most of the research on migration's impact only checks the economic difference between a migrant and non-migrant household. The effect of migration across different streams of migration has not been adequately studied. The research on the migration process, accept the importance of network an informal arrangement to share information. Some scholars also argue its broader role in pursuing the labourer to migrate to specific destinations and occupation to meet the destination's labour demand. However, what is the obstacles to shifting from one migration network to other is understudied. Based on the review of theoretical and empirical research on migration, we have formulated three primary objectives to fill the research gap on migration study.

1.8 Structure of the Thesis

The thesis comprises seven chapters to investigate three primary objectives. The introduction chapter includes a review of migration theory, empirical evidence of temporary internal migration in India, research questions and objectives. The second chapter investigates the first primary objective; the decision of migration. This chapter develops based on a secondary source of data from NSS 64th round 2007-08. It explains the impact of micro indicators such as households and individual characteristics and the macro variables such as states and regions' economic condition on migration decision. We have shown the impact of macro and micro characteristics on migration decision through the multi-level logistic regression model.

The secondary data does not collect information regarding livelihoods, migration networks and migration history. To verify the second and third objectives, we directly depend on a primary survey. The primary data of 652 households from rural Odisha is collected through a structured questionnaire. The selection process of survey state, district, village and households is presented in chapter three. Chapter four elucidates the socio-economic condition of survey households. We have calculated different sources of income, consumption expenditure, credit information for each household. The second primary objective about the impact of migration is substantiated in Chapter five. We show the contribution of remittance in the share of household income. It also constructs Financial, Physical, Human and finally, the Livelihood

capital index through PCA analysis to decipher the impact of migration on migrant households compared to the non-migrant households.

Chapter six explains the migration networks, migration history and pattern of migration. We found six major migration streams operating in the study area from the analysis of migration networks and patterns of migration. The history of migration shows the origin and development of these six major migration streams. The migration streams, migration history and impact of migration are simultaneously investigating to understand the long-run impact of migration. The concluding chapter presents a summary of significant findings, the long-run impact of migration and policy suggestions.

Chapter II

Impact of Micro and Macro Factors on Decisions of Cyclical (Short-term) Migration in Rural India: A Multilevel Analysis

2.1 Introduction

In the debate of migration research, factors relevant for explaining the migration decision play the most critical role. Factor determination of migration could be divided into two broader groups; push factors and pull factors. The emergence of the new economics of Labour Migration (NELM) marked a deviate from neo-classical and actor-oriented approaches towards a household-level based standpoint which explains migration based on lack of resources and imperfect markets within which migration decisions are made (Haas De, 2010). Marxist analysis counters by arguing that migration decisions are not a simple market imperfection problem; instead, distress factors play a crucial role in migration decisions (Breman J. , 2004); (2009).

The neoclassical theories of migration argue that the development of the urban manufacturing sector creates demand for labour. The surplus of agricultural labourer migrates to the urban areas to benefit from higher real wages (Lewis, 1954). Harris & Todaro have given a theoretical explanation for high unemployment in urban center and continuously supporting migration as an alternative to the rural problem. Todaro elucidates that rural-urban migration depends on urban-rural expected income difference and probability of getting an urban job (Todaro, 1969); (Harris & Todaro, 1970). Lucas reformulates the rural-urban migration in term of life cycle analysis (Lucas, 2004).

The neo-classical theory fails to justify the temporary and chain migration system. The NELM theory tries to rationalise the temporary and chain migration system through missing market argument. People cooperate not only to maximise expected income but also to minimise risks and uncertainty associated with a variety of market failures, apart from those in the labour market (Stark & Bloom , 1985); (Stark & Taylor , 1991); (Stark & Wang , 2000); (Stark & Fan, 2007). The households manage the risks of economic well-being by diversifying household resources, such as family labour.

In contrast to the neo-classical and NELM theory, Marxist scholars state that migration is not a solution to the problem of rural distress in a developing country like India; instead, it is a continuation of unfree labour relations in the urban informal sector (Brass, 1986); (Brass,

1990); (Breman, 1985); (Breman, 1989); (Breman, 1993). Breman terms them as neo bondage, free mobility of labourer without any job certainty (Breman, 1996). One way the interlinked market system makes rural labour unfree, and the other way decreases alternative opportunities. In this condition, people migrate not for higher-income but survival.

The recent studies on migration decisions in rural India have shown that the distress and force factors play a significant role. The study from NSS data concludes that the temporary migration is high among the lower class, marginalised section of society, reflecting the distress-driven nature of migration. Most scholars accept that the push factors are behind the decision of temporary migration in India (Keshari & Bhagat , 2012); (Keshari & Bhagat, 2013). Interaction of the household's size and landholding explains that the larger household size, owning smaller landholdings have a greater chance of migrating (Parida & Madheswaran, 2011). The Census 2001and NSS 1999-2000 data suggests that the circular migration rates are high in remote rural areas, particularly amongst poor people (Bird & Deshingkar, 2004). Micro studies from different part of India also found similar results (Korra, 2011); (Dodd et. al, 2016); (Julich, 2011); (Mitra & Pradhan, 2016); (SWiFT, 2016). The primary survey in Bihar confirms a non-linear relationship between landholdings and migration decisions (Tsujita & Oda, 2012). Micro studies of six villages from AP and MP found that migration is higher among chronically poor groups (Deshingkar, 2010).

Most researches explain the significant relationship between micro factors (Household & Individual) and migration decisions. Some studies relate macro conditions such as inequality, per capita income with macro migration rate. This chapter scrutinises the impact of micro and macro variables on the decisions of temporary internal migration in India, through a multilevel logistic regression model. The following section clarifies the methodology and data processing to verify the above objective. The third section explains the pattern of cyclical migration across different socio-economic indicators. The fourth section describes the impact of macro variables on migration decisions at the region and state-level analysis. The fifth section explicates the regression results of the decisions of cyclical migration, followed by conclusions in the last section.

2.2 Data Source and Methodology

2.2.1 Methodology

There are extensive debates on migration decisions, whether it is households' or individuals' choice. NELM theory and Marxist scholars strongly support the idea that household as a unit

takes migration decisions. In contrast, the neo-classical theory argues that the individual takes the migration decisions. We have examined the migration decision in a two-step process; in the first step, households decide whether they will engage in migration based on their socio-economic indicators. In the second step, individual characteristics decide who will migrate from the households to diversify family labour (Stark & Bloom , 1985) (Stark & Wang , 2000). However, most empirical studies on internal migration decisions have regressed the household's characteristics in the individual-level analysis (Parida & Madheswaran, 2011); (Keshari & Bhagat , 2012).

The NSS data have been collected through a multi-stage sampling process, which is nested in nature. Multilevel analysis is appropriate in the nested data set. However, the empirical research on migration decisions have demonstrated through a simple binary logistic regression model (Kundu & Sarangi , 2007); (Parida & Madheswaran, 2011); (Keshari & Bhagat , 2012); (Kundu & Saraswati, 2012); (Keshari & Bhagat, 2013). If we use a non-hierarchical model on a nested data set, the statistical significance of level-1 variables is overestimated. Further, the standard errors of level-2 or group level variables will also be affected (Goldstein, 2003). "*Unlike in the fixed-effects model, where the groups are taken into consideration by taking dummies for each group, a multilevel model allows us to distinguish between observed and unobserved group characteristics"* (Rabe-Hesketh & Skrondal, 2008). This study constructs a multilevel logistic regression model (MLLR) that analyses the variation within the States and Region in addition to fixed or level -1 variation.

In the 3-level MLLR model, the dependent variable is a binary response (*y*, migrate or not) for household *j* in region *k* in state *l.* Assuming the binary response, Y_{jkl} to be Bernoulli distributed with probabilities π_{jkl}: $Y_{jkl} \sim$ Bernoulli(1, π_{jkl}), the probabilities, π_{jkl}, were related to a set of micro predictors *X* (caste, land owning categories, household type, religion, sex, age and education of household's head, household size, MPCE) and macro predictor Z (per capita GSDP (state), percentage of population under BPL (state), Gini of MPCE (region) and non-agricultural wage rate (region)) and a random effect for each level, by a logit link function as

$$Y = Logit(\pi_{jkl}) = Log(\pi_{jkl}/(1-\pi_{jkl})) = \beta_0 + \beta_1 X + \beta_2 Z + u_{jkl} + v_{kl} + g_l$$

$$Y = 1 \text{ if } (\beta_0 + \beta_1 X + \beta_2 Z + u_{jkl} + v_{kl} + g_l) > 0$$

Or Y= 0

The linear predictor on the right-hand side of the equation consists of a fixed part ($\beta_0 + \beta_1 X + \beta_2 Z$) and two random intercepts attributable to Region (v_{kl}) and States (g_l). X is a matrix of

households' characteristics, and Z is a matrix of macro variable. The parameters β estimate the differential in the log-odds of migration for the different categorical predictors, modelled as contrasted dummy variables. Each of the random effects is assumed to have an independent and identical distribution, such that we have variances estimated for the region (α^2_v) and states (α^2_g). These variance parameters show the heterogeneity in the log-odds of migration at each level, after considering the relationship between the log odds of migration and predictors in the fixed part. The same model has also developed for developed and underdeveloped states separately (see section 4.2).

The decision of migration is a binary dependent variable, and individual characteristics are the independent variable. So, the impact of individual characteristics on migration decision is evaluated through binary logistic regression (Gujurati, 2004); (Hosmer & Lemeshow, 2000). It tries to answer who are the individuals engaged in migration within migrant households. Binary Logistic regression estimates the probability of an event occurred for any given linear combination of independent variable.

P = E(Y/X) (outcome of Interest/ all possible outcome)

Y= {1 if a person is migrant OR 0 if the person is not migrant}

Odds- (P/(1-P)) = (Probability of occurring / probability of not occurring)

Logit (Y) = Log((P/(1-P)) = $X\beta + U$

X is a matrix of independent variables (Individual characteristics), and Y is a binary variable of migration decision. The same model has also framed to verify the impact of individual characteristics on the individual decision of migration among migrant households in developed and underdeveloped states separately (see section 4.3).

2.2.2 Data processing

When people migrated within the boundary of the country, called as internal migration. In our study, we have taken data on temporary internal migration for economic reason from rural India. NSS provides three types of migration data; seasonal migration or short-term, semi-permanent and permanent migration. According to NSS, Seasonal migrants are the people who migrate for 15 days to six months period. The seasonal migrant stays part of the year at origin and another part in the destination. In contracts, Semi-permanent migrant stays a few years away from home and sends remittance periodically. These semi-permanent migrants directly link with their home concerning socio-economic condition, and sometimes they return and stay back in the home. However, the permanent migrant leaves their home, settle and retire in the destination. Tumbe also found the three-fold division of migration for economic purpose

(Tumbe, 2015). The seasonal and semi-permanent migrant have many similarities; both types of migrants engaged in the informal sector of the economy and strong connection with the socio-economic condition of their origin. They return to the origin and again migrate for their survival. Breman has defined these migrants as a circular migrant (Breman J. , 2013).

We have used data collected in 64th round of NSS survey on employment, unemployment and migration. 64th round is only the latest migration data of NSS survey available at all India level. It has collected information from all states and union territories, across 79091 rural households and 46487 urban households—this research confines itself to the rural areas of major states of India. So, the study excluded urban areas, all union territories and northeastern states. The final observation includes information relating to the rural area of 19 states, across 67510 households. In the final MLLR model, the study has selected 67510 households at level-1, 70 regions in level-2, and 19 states in level-3. For the cross-tabulation analysis, weightage has been used to calculate their respective percentage.

We have verified the objective, the migration decision in a two-step process. The household's information and macro variable indicator are regressed through the MLLR model in the first step. We call any household as a migrant household if any working age (15 to 64 age group) member of the household has migrated temporarily within the country. The second step investigates the individual migration decision among migrant households' members through the binary logistic regression model. Within the migrant households, 80456 individuals are in the working-age group, which is also our final number of observations for the binary logistic regression model. The macro variable information as GSDP per capita gathers from EPWRF (EPW research foundation) for 2007-08. The percentage of population under BPL information is collected from the Tendulkar committee report 2004-05. Inequality is measured through the GINI coefficient of MPCE[1]. The average non-agricultural wage rate and MPCE at the regional level are collected from the 64th round of NSS.

2.3 Pattern of Cyclical Migration

Table 2.1 presents the pattern of cyclical, seasonal and semi-permanent migration across different socio-economic variables of rural India. Around 2.7 per cent of the working-age

[1] Gini coefficient of each region is calculated separately with the help of R package. Where Gini is calculated as G (Gini)=$\frac{\sum_{i=1}^{n}\sum_{j=1}^{n}|x_i-x_j|}{2n\sum_{j=1}^{n}x_j}$

individual are engaged in seasonal migration, whereas it is 3.3 per cent in semi-permanent migration with remittance. The cyclical migration is a sum of the seasonal and semi-permanent migration, so 5.9 per cent of working-age individuals are engaged in cyclical migration. There is 5.9 per cent of seasonal migrant households and 9.6 per cent of semi-permanent migrant households. So, the cyclical migrant household is 15.2 per cent of total survey households.

The migration pattern across social groups differs in seasonal and semi-permanent migration. The ST and SC households are highly engaged in seasonal migration, whereas the OBC and OC household's migration rates are high in semi-permanent migration. The cyclical migration is the horizontal summation of seasonal and semi-permanent migration; there is a minimal divergence in the percentage of individuals or households engaged in cyclical migration across social groups. Across the landholding group, the marginal farmer highly engages in migration, followed by landless and small farmers in seasonal and semi-permanent migration. Around 7 percent of individual from marginal farmer households are engaged in cyclical migration, followed by labourer households, small farmer, medium farmer and large farmer, with migration rate 5.6, 4.8, 4.0, 3.2 percentage respectively. The same pattern has also followed in the percentage of households engaged in cyclical migration. There is a significant difference in individual and household's migration rates across farm size, but both types of migration rates decrease with an increase in landholding.

According to the household's occupational status, labour households are highly dependent on seasonal, and the other households type dominates in semi-permanent migration stream. In the percentage of households engage in cyclical migration. The cyclical migration rate is highest among the Other Household type, followed by the agricultural and labour households. The percentage of individuals engaged in migration from agricultural households is less than labourer households, but the percentage of households dependent on cyclical migration is higher among agricultural households than labourer households. The whole family is engaged in migration in labourer households, but among agricultural households' only a single person engaged in migration to supplement household expenditure or diversify the labour-power. So, the individual's migration rate is low compared to the percentage of households engaged in migration among agricultural households, and it is opposite in the case of labour households.

Across the religious groups, the migration rate is highest among Muslims, followed by Hindus and others. The male domination is also clearly visible in the individual migration rate across all types of migration. In the gender of household's head group, the percentage of household

dependent on migration is highest among the female-headed households in semi-permanent and cyclical migration. The level of education is negatively associated with the migration rate. The individual and household wise migration rates of lower educated people are higher than the relatively higher educated person.

Table 2.1 Migration rate of different type of migration across socio-economic indicators

		Seasonal Migration		Short term migration with remittance		Cyclical Internal migration rate	
Variable	Category	individual wise	HH wise	individual wise	HH wise	individual wise	HH wise
Social Group	ST	5.2	8.8	1.6	4.6	6.7	13.1
	SC	3	6.4	3.1	8.8	6.1	14.9
	OBC	2.4	5.5	3.6	10.5	6	15.8
	OC	1.8	4.7	3.5	11.1	5.3	15.5
Farm Size Group	LL	2.8	5.3	2.9	7.4	5.6	12.5
	MF	3.1	6.9	3.8	11.4	6.9	18
	SF	2	5	2.8	9.9	4.8	14.6
	MDF	1.4	3.8	2.6	9.4	4	12.9
	LF	1.1	3	2.2	9.6	3.2	12
HH Type	Self-employed in non-agriculture	2	5	2.1	6.4	4	11.3
	Labourer	4.2	9.3	2.2	4.1	6.3	13.1
	Self-employed in agriculture	1.9	4.9	3.7	12.2	5.5	16.6
	Others;	1.1	2	8	18.1	9.1	20.1
Religion	Hinduism	2.7	5.6	3.3	9.7	5.9	15.1
	Islam	3.2	8.2	3.9	11.3	7	19
	Others	1.4	3.3	1.8	5.8	3.3	9
MPCE Class Group	Poorest 20%	4.4	9.4	2.6	7.9	7	17.1
	20 -40%	3.2	7	3.3	9.8	6.4	16.3
	40-60%	2.2	4.9	3.1	9.5	5.3	14.1
	60- 80%	1.7	3.7	3.5	10.4	5.2	13.8
	Richest 20%	1.1	2.3	4.3	11.6	5.3	13.8
Gender*	Male	4.5	6.2	3.4	7.1	7.9	13
	Female	0.8	3.4	3.1	28.6	3.9	31.6
Marital status	Never Married	3.2		3.4		3.6	
	Married	2.6		4		6.6	
	Widowed	1.8		5.4		6.4	
Education *	Not literate	2.7	7.2	4.5	11.8	7.2	18.7
	Up to Primary	3.5	5.8	3	8.5	6.4	14.1
	Up to upper primary	2.5	4.3	2.1	7.4	4.6	11.5
	secondary & above	1.6	3.4	2	7.8	3.7	11.1
Rural India		2.7	5.9	3.3	9.6	5.9	15.2

Source- Authors' calculated from NSS 64th round (2007-08) unit-level data

Notes$_1$: - ST- Schedule Tribe, SC- Schedule Caste, OBC- Other backward class, OC- other Caste, LL- Landless, MF-marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer, HH- Households.

Note$_2$- Gender represents the sex of the household's head, and education represents the household head's education.

Based on Monthly Per capita Consumption Expenditure (MPCE), class groups have a diverse migration pattern across migration types. The poorest 40 per cent of households have the highest seasonal migration rate, but the wealthiest 20 percent have the highest semi-permanent migration rate. Parida & Madheswaran have also explained the same pattern of migration (Parida & Madheswaran, 2011). In Cyclical Migration, the poorest 40 percent population has a higher migration rate than the rest 60 percent population whose migration rate is 5 per cent individually and 13 per cent among households. The seasonal migration rate is highest among the labourer household, lower social group, lower MPCE group. The semi-permanent migration rate is highest among rich MPCE group and Other households type group. It is exciting to find out the impact of different variables on cyclical migration in rural India.

2.3.1 Impact of Macro Variable on the Rate of Migration

Most studies on migration decision in India are confined to the impact of micro variables. Keshri and Bhagat's study on the decision of seasonal migration in India has analysed the impact of the household and individual characteristics on migration behaviour (Keshari & Bhagat , 2012). Parida & Madheswaran have also studied the semi-permanent internal migration in India through a utilitarian approach (Parida & Madheswaran, 2011). There are considerable works on migration suggesting a significant impact of the macro variables on migration behaviour. The neoclassical economist group as Lewis, Fei and Ranis, Todaro have suggested that the macro difference among the regions is a critical factor of migration decision. These groups primarily focus on the income gap among the regions, which is likely to decide migration patterns. The NELM has explained that the relative income difference among the households of a region has a significant impact on migration behaviour.

This section has empirically verified both the above hypotheses. We have taken income as well as inequality variable to explain the pattern of migration. In the economic class category, we have taken four variables as percentage of population under below poverty line, per capita gross state domestic product, average per capita monthly consumption expenditure, average non-agricultural wage rate and inequality in MPCE have taken to understand the relative income difference. The per capita GSDP and percentage of Population under BPL are state-level variables, and the non-agricultural wage rate, MPCE and Gini coefficient of MPCE are region level variables. The theoretical construction clearly explains that the rich region has a lower cyclical migration rate than the poor region. The relative income difference suggests a positive relationship between the degree of inequality and migration rate. The GSDP per capita, non-

agricultural wage rate and MPCE expenditure are taken in their logarithm form to normalised their distribution.

Table- 2.2: Regression results of cyclical Migration on different macro-variable

	% of HH engaged Cyclical Migration within India (Dependent Variable)				
Log of GSDP per capita	-10.41*** (0.00)				
% of population under BPL (Tendulkar 2004-05)		0.17* (0.082)			
GINI coefficient of MPCE			0.84*** (0.000)		
Non-agricultural wage rate				0.104** (0.019)	
MPCE					0.021*** (0.00)
Constant	119.96*** (0.00)	6.64* (0.062)	44.35*** (0.00)	53.34*** (0.00)	47.98*** (0.00)
Adjusted R Square	0.41	0.12	0.17	0.07	0.17
N	25	25	70	70	70

Source- GSDP - EPW research foundation, BPL- Tendulkar committee report 2004, Gini coefficient, Non-agricultural wage and MPCE is calculated from the 64th round of NSS.
Notes: - Value inside parenthesis explain the level of significance or P-value. *, **, *** are explaining the 10%, 5% and 1% level of significance.

Most of our independent variables are highly correlated with each other. The correlation between the per capita GSDP and BPL percentage is -0.49 (0.011), and it is 0.65 (0.00) in the case of MPCE and non-agricultural wage rate. The pairwise correlation of Gini of MPCE on MPCE and non-agricultural wage rate are 0.45 (0.00) and 0.44 (0.00) respectively. All the correlations are statistically significant at 1% level (p-value is mention in parenthesis). To avoid the multicollinearity in the regression model, it has regressed each variable independently on the percentage of cyclical migration.

The regression result of household's migration rate on different macro variables is presented in Table 2.2. Our dependent variable is the percentage of households engaged in cyclical migration in a region and state. In the regression results, all the variable coefficients have expected sign and significantly effecting the percentage of households engaged in migration. Linear prediction of the percentage of households engaged in migration is presented graphically in appendix 2, Graph 1 to 5. The percentage of households engaged in migration have a downward sloping curve when we regress with GSDP per capita. Furthermore, it is upward sloping in MPCE, Gini coefficient of MPCE and non-farm wage rate, and the household percentage under BPL variable case.

2.4 Decision of Cyclical Migration in Rural India

It has mentioned that the study framed through a two-stage process of migration decision. Secondly, io has verified the migration decisions through logistic regression analysis in all India and developed and underdeveloped states separately. The following section 4.1 explains the household's migration decision at all India levels, followed by the household's migration decision in developed and underdeveloped states separately in section 4.2. The individual decision of migration within the migrant households is explained in section 4.3.

2.4.1 Result of Households decision of migration

The above table clearly explains that the macroeconomic variables significantly affect the household's migration decision. In the following section, we try to incorporate the macro variables in the migration decision analysis. So, it requires a model to explain the impact of socio-economic variation across regions and states and micro variables on migration decisions. The dependent variable is a binary decision of migration, and the independent variables are spread into three levels; households in level one, region in level two and state in level three. The second step has shown the impact of individual characteristics on migration decision within migrant households.

Table 2.3 explains the results of household-level regression analysis on migration decision in rural India. It also shows the development of multilevel logistic regression over the binary logistic regression model. The first model (LR) is logistic regression, where the household's decision of migration depends only on household characteristics. In the second model (LR Macro), logistic regression includes the macro variable in the fixed level analysis. The Third model is multilevel logistic regression (MLLR), which has three levels, level one includes households indicates with macro variable, level two is regional variation in the intercept, and level three describes state variation in the intercept. In each model, the first column explains their odd ratio and the second column explains their average predicted probability (It is in between 0 to 1) of households engage in migration.

Sign of most of the coefficients of the variables are as per the expectation. Wald test shows that all variables significantly impact the dependent variable except the square of household's size variable in the LR model. Wald test on the LR macro model shows that all variables significantly impact the dependent variable except the square of households' size and percentage of population under below poverty line. Wald test on MLLR model suggests that most variables significantly impact migration decisions at fixed effect except Religion, Square

of households' size, percentage of population under below poverty, Gini of MPCE and non-agricultural wage rate Appendix 2, Table 3.

In the LR model, all variables except the square of household size are significant. In social groups, SC/ST households have a significantly higher probability of engaging in migration than OBC households. The predicted probability column also explains that the SC/ST households have 0.41 (41 per cent) chance to engage in migration which is significantly higher than the OBC household's probability of migration which is 0.39 (39per cent). In the MLLR model predicted probability to engage in migration are 0.44 (44 per cent), 0.42 (42 per cent) and 0.43 (43 per cent) among SC/ST, OBC and OC household, respectively.

The Landless household is the base category in the landholding variable. Across three models, marginal and small farmers have a significantly higher probability of engaging in migration than landless households. The predicted probability of engaging in migration is highest among the marginal farmers followed by small farmers and landless households. The predicted probability of marginal farmer, small farmer and landless groups are 0.45 (45 per cent), 0.42 (42 per cent) and 0.38 (38 per cent) in the LR model, respectively. A similar pattern is also found in the LR macro and MLLR model with little change in predicted probability value. The odd ratio of medium and large farmers is statistically insignificant across the regression model.

The households type variable is statistically significant in three models. The Odd ratio and predicted probability of the other type of household group is highest, followed by the labour household, self-employed in agriculture and self-employed in non-agriculture household groups across three models. The predicted probability of cyclical migration among the other type household, labour, agricultural and non-agricultural groups are 0.47 (47 percent), 0.39 (39 percent), 0.40 (40 percent) and 0.35 (35 percent) in LR model, but in LR macro model it is 0.49 (49 percent), 0.43 (43 percent) 0.41 (41 percent) and 0.37 (37 percent) respectively. The MLLR model suggests that the most vulnerable household as labourer and others (non-economic activity) have a higher probability of engaging in cyclical migration than farming and non-farm self-employed households in rural India.

Table- 2.3: The Results of Households Decision of Migration model

		LR		LR (Macro)		MLLR (Robust)	
Variable	Category	Odd ratio	PP	Odd ratio	PP	Odd ratio	PP
Social Group	SC/ST	1	0.39	1.000	0.39	1.000	0.44
	OBC	0.917[a] (-4.38)	0.38	0.914 [a] (-4.44)	0.38	0.939 [b] (-2.44)	0.42
	OC	0.978 (-0.90)	0.39	1.026 (1.04)	0.39	0.963 (-0.82)	0.43
Farm Size Group	LL	1	0.35	1.000	0.35	1.000	0.39
	MF	1.304 [a] (13.03)	0.42	1.253 [a] (10.96)	0.42	1.335 [a] (4.98)	0.46
	SF	1.185 [a] (5.17)	0.39	1.16 [a] (4.47)	0.39	1.313 [a] (4.29)	0.46
	MDF	1.052 (1.16)	0.36	1.037 (0.81)	0.36	1.179 (1.44)	0.43
	LF	0.932 (-1.12)	0.34	0.936 (-1.04)	0.34	1.05 (0.35)	0.40
HH Type	Self-employed in non-agriculture	1	0.33	1.000	0.33	1.000	0.37
	Labourer	1.166 [a] (5.67)	0.38	1.257 [a] (8.39)	0.38	1.297 [a] (4.79)	0.44
	Self-employed in agriculture	1.228 [a] (7.12)	0.40	1.166 [a] (5.28)	0.40	1.158 [a] (2.35)	0.41
	Others;	1.598 [a] (14.49)	0.45	1.593 [a] (14.30)	0.45	1.645 [a] (9.19)	0.50
Religion	Hinduism	1	0.39	1.000	0.39	1.000	0.43
	Islam	1.081 [a] (2.78)	0.42	1.041 (1.43)	0.42	1.023 (0.32)	0.44
	others	0.63 [a] (-11.28)	0.29	0.826 [a] (-4.51)	0.29	0.965 (-0.56)	0.42
Sex of HH Head	Male	1	0.36	1.000	0.36	1.000	0.32
	Female	2.308 [a] (33.78)	0.56	2.438 [a] (35.69)	0.56	2.493 [a] (8.84)	0.54
Education of HH Head	Not literate	1	0.43	1	0.43	1.000	0.46
	Up to Primary	0.964[c] (-1.79)	0.38	1.02 (0.94)	0.38	1.03 (0.74)	0.47
	Up to Upper primary	0.83 [a] (-6.91)	0.34	0.872 [a] (-5.02)	0.34	0.881 [a] (-2.57)	0.43
	secondary & above	0.696 [a] (-12.49)	0.30	0.71 [a] (-11.65)	0.30	0.692 [a] (-6.55)	0.37
HH Size		1.067 [a] (6.17)		1.07 [a] (6.34)		1.084[c] (1.90)	
HH Size Square		1 (-0.49)		0.999 (-1.06)		0.998 (-0.75)	
Age of HH head		1.039 [a] (10.23)		1.041 [a] (10.68)		1.039 [a] (3.12)	
Square of age of HH head		1 [a] (-7.38)		1 [a] (-7.15)		1 [a] (-2.49)	
Log of MPCE		0.889 [a] (-5.59)		1.095 [a] (3.95)		1.218 [a] (3.18)	
Log of GSDP per capita (State)				0.706 [a] (-13.35)		0.664[c] (-3.4)	
% of BPL in 2004-05 (State)				1.002 (1.26)		1.007 (1.09)	
Percentage Gini MPCE (Region)				0.043 [a] (-11.71)		0.238 (-1.13)	
Non-Agricultural Wage (Region)				0.998 [a] (-6.20)		0.999 (-0.50)	
Constant		0.232 [a] (-8.93)		4.353 [a] (4.28)		1.78 (0.42)	
Region	Var (Intercept)					0.077 [a] (4.41)	
State	Var (Intercept)					0.092 [a] (1.97)	
Level-1	No of HH	67510		67510		67510	
Level-2	No of Regions					70	
Level-3	No of States					19	
Hosmer and Lemeshow Test (Chi-square)		22.275 [a]		69.526 [a]			
Omnibus Tests of Model Coefficients (Chi-square)		3349.434 [a]		4517.298 [a]		3050.38[a]	
Log-likelihood		86796.63 [a] (155.96)		85628.77 [a] (175.99)		-84294.3[a] (795.177)	
R^2		0.066		0.088			

Source- Authors' calculated from NSS 64th round of unit-level data

Notes: - ST- Schedule Tribe, SC- Schedule Caste, OBC- Other backward class, OC- other Caste, LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer, RI- Rural India, HH- Households. The value inside parenthesis explains the t-value. a, b, c explains 1%, 5% and 10% level of significance.

The religion variable significantly impacts the migration decision in the LR and LR macro model, but it is not significant in the MLLR model. The LR model shows that the Muslim population have a higher chance of engaging in cyclical migration than the Hindu and Other religious groups. However, the MLLR model suggests that the cyclical migration is not significantly different across religious groups. The gender of the household's head variable is highly significant in all three models. The odd ratio of female-headed households suggests that the chance of female-headed household migration is two and half times higher than the male-headed households. The predicted probability of female-headed household and male-headed household are 0.50 (50 per cent) and 0.31 (31 per cent) in the LR model. The same pattern of predicted probability among male and female headed households is also found in the LR macro and MLLR model.

Education of the Households head variable is also significantly impacting the dependent variable. The predicted probability of cyclical migration decreases with the increment in the level of education. The odd ratio and predicted probability of illiterate households' head are highest compared to primary, secondary and higher secondary educated household heads. In the LR macro and MLLR model, the odd ratio of primary educated households head is insignificant, suggesting that the predicted probability and odd ratio of illiterate and primary educated household heads are similar/equal.

All continuous variables significantly influence migration decision across three models except the square of households' size. Household size positively affects migration decision, which suggests an increase in household size results in a higher chance of engaging in migration. An increase in one member in the household leads to around a six per cent higher chance of migration. In the MLLR model, the square of household size is significant and less than one that suggests an increment in the probability of migration at a decline rate for an extra working member in the household size.

The coefficient value of age of households' head is significant and greater than one, but the square of age of household head is around one across three models. The increment in one-year age of households' head leads to a 4 per cent increase in the probability of migration at a constant rate over the age range of 15 to 64 years. Log of MPCE has diverse result across three models. In the LR model, the log of MPCE is less than one, which suggests a negative impact of the log of MPCE on the dependent variable, but the log of MPCE is more than one in the LR macro and MLLR model, which explain a positive impact log of MPCE on dependent

variable. It may be due to the endogenous relation of MPCE with migration. When people migrate, it gives the migrant some income which directly increases consumption expenditure (MPCE). Some scholars have also found a positive relation between MPCE and the decision of semi-permanent migration in rural India (Parida & Madheswaran, 2011) (Kundu & Sarangi , 2007) (Kundu & Saraswati, 2012).

Log of GSDP per capita variable significantly impacts the migration decision in the LR macro and MLLR model, which negatively relates to the dependent variable. It explains that households residing in states with higher GSDP per capita have less chance of engaging in cyclical migration than the households residing in states with lower GSDP per capita. The lower GSDP states have lesser employment opportunity and lower wage rate are leading causes a higher migration rate among the lower GSDP states. The percentage of population under BPL in a state is positively related to migration decision, but the coefficient is statistically insignificant. The inequality variable, Gini of MPCE is significant and negatively relates to the dependent variable in the LR macro model, but it is insignificant in the MLLR model. The non-agricultural wage rate is negative and significantly relate to migration decision in the LR macro model, but it is insignificant in the MLLR model.

Most research suggests multilevel regression in the case of multi-stage sampling data. The NSS is a multi-stage sample data. So, the multilevel logistic regression will be most appropriate to explain the decision of cyclical migration. The intercept variance of Level 2 (Region) and level 3 (States) results are significant, explaining that within the states, intercept vary 9 per cent, and within the regions, it varies 7 per cent. The result of MLLR explains that the households from socially marginalised sections, with low landholding, low education, labour and employed as belonging to vulnerable and female-headed households, origin from low income or GSDP per capita state, are more likely to engage in cyclical migration in rural India.

2.4.2 Households' Decision of Migration in Developed and Underdeveloped States

The above section clearly explains that the migration decision is affected by households' characteristics, and the macro variables significantly impact cyclical migration in particular. Keshari & Bhagat examine the socio-economic determinants of temporary labour migration in India at the state level. They also found that the pattern of temporary and permanent migration varies across states. Temporary migration is highly associated with the backward states (Keshari & Bhagat, 2013). This section clarifies the variation in migration decisions across their socio-economic condition within the developed and underdeveloped states. So, it is trying

to explain why there is a variation in cyclical migration across states. Major 19 states are divided into two groups as developed and underdeveloped states, based on their GSDP (2007-08), percentage of population under the poverty line (2004-05), GINI of MPCE and non-agricultural wage rate (NSS 64th round 2007-08) through two-step clustering method. We have regressed the decision of migration on households' characteristics in both developed and underdeveloped states separately through the MLLR model.

The household's decision of cyclical migration in developed and underdeveloped states are presented in Table 2.4. The expected sign of most of the continuous variables is as per the expectation. The Wald test also explains that most of the variables have a significant impact on migration decision in both developed and underdeveloped states except the Households' size, log of GSDP per capita and nonagricultural wage rate in developed states and social group, religion, percentage of population under BPL, and Gini of MPCE in underdeveloped states (See Appendix 2, Table 3). The variation of intercept across states is insignificant within the developed and underdeveloped states.

Across social group, SC/ST households have a significantly higher chance of migration than the OBC and OC households in developed states. However, the social group variable is insignificant, suggesting that all social groups have an equal chance to engage in migration in underdeveloped states. In the land holding categories, the marginal and small farmers have the highest chance of cyclical migration in developed and underdeveloped states. Across household type, the other type of households has highest chance of migration, followed by agricultural, labour and non-agricultural households in developed states. However, in underdeveloped states, labour households have a higher chance of migration than agricultural households. In underdeveloped states, most vulnerable households are more dependent on cyclical migration than the developed states. In both states, households with female and lower educated heads have a higher probability of engaging in cyclical migration than their counterparts.

The random effect of states (level-3) is insignificant in both developed and underdeveloped states. It suggests that the intercept variation across states is minor within the developed and underdeveloped states, but the intercept variation between the developed and underdeveloped states is significantly high. The region's random effect (level-2) is significant in developed and underdeveloped states, but it is less in underdeveloped states than developed states.

Table 2.4: - The Results of Households Decision of Migration across Developed and Underdeveloped states

		MLLR Developed state		MLLR Under-Developed state	
Variable	Category	OR	PP	OR	PP
Social Group	SC/ST	1	0.37	1	0.47
	OBC	0.839*** (-4.11)	0.33	0.977 (-1.01)	0.46
	OC	0.860** (-2.55)	0.34	0.986 (-0.29)	0.47
Land Holding Group	LL	1	0.31	1	0.44
	MF	1.529*** (5.1)	0.40	1.246*** (3.8)	0.50
	SF	1.357*** (2.72)	0.37	1.247*** (2.66)	0.50
	MDF	1.124 (0.66)	0.33	1.148 (0.87)	0.47
	LF	1.072 (0.37)	0.32	0.943 (-0.33)	0.43
HH Type	Self-employed in non-agriculture	1	0.30	1	0.41
	Labour	1.194*** (3.98)	0.34	1.356*** (4.51)	0.48
	Self-employed in agriculture	1.345** (2.5)	0.36	1.121* (1.72)	0.43
	Others;	1.484*** (3.76)	0.39	1.754*** (10.69)	0.55
Religion	Hinduism	1	0.37	1	0.46
	Islam	0.802** (-2.29)	0.32	1.064 (0.79)	0.48
	others	0.928 (-0.82)	0.35	0.987 (-0.16)	0.46
Sex of HH Head	Male	1	0.26	1	0.35
	Female	2.339*** (4.42)	0.45	2.586*** (8.51)	0.58
Education of HH Head	Not literate	1	0.34	1	0.51
	Up to Primary	1.165*** (3.54)	0.38	1.001 (0.02)	0.51
	Up to Upper primary	1.076 (1.17)	0.36	0.835*** (-3.33)	0.46
	secondary and above	0.888 (-1.3)	0.31	0.643*** (-9.71)	0.40
HH Size		0.979 (-0.45)		1.135*** (2.59)	
HH Size Square		1.004* (1.77)		0.996 (-1.59)	
Age of HH head		1.076*** (5.14)		1.03** (2.1)	
Square of Age of HH head		1*** (-3.73)		1* (-1.8)	
Log of MPCE		1.192** (2.44)		1.235** (2.35)	
Log of GSDP per Capita (State)		1(-1.14)		1*** (-3.74)	
% of BPL in 2004-05 (State)		1.033** (1.96)		0.997 (-0.36)	
Percentage Gini MPCE (Region)		0.02*** (-2.89)		17.102 (1.57)	
Non-agricultural Wage (Region)		1.002 (0.95)		0.993*** (-3.08)	
Constant		0.018*** (-4.29)		0.086*** (-3.17)	
Region	Var (Intercept)	0.09** (2.47)		0.058*** (3.36)	
State	Var (Intercept)	0.72 (0.72)		0.094 (1.55)	
Level-1	No of HH	22542		44968	
Level-2	No of Regions	30		40	
Level-3	No of States	9		10	
Omnibus Tests of Model Coefficients (Chi-square)		1350.92***		2012.64***	
Log-likelihood		-13104.35*** (54.92)		28853.98*** (-737.06)	

Source- Authors' calculated from NSS 64th round (2007-08) unit-level data

Notes: - ST- Schedule Tribe, SC- Schedule Caste, OBC- Other backward class, OC- other Caste, LL- Landless, MF-marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer, RI Rural India, HH-Households. The value inside parenthesis explains the t-value. *, **, *** are explaining the 10%, 5% and 1% level of significance. PP- average predicated probability, OR- Odd Ratio.

The MLLR model of developed and underdeveloped states suggest that economically worse-up households have a higher chance of migration in both types of states. The socially

marginalised groups are more engaged in cyclical migration in developed states than underdeveloped states. The random effect of states is insignificant within the developed and underdeveloped states. The intercept's variation is higher and significant between the developed and underdeveloped states.

2.4.3 Individual Characteristics and Decision of Cyclical Migration

The following section investigates who is the individual engaged in cyclical migration. Around 15 percent of households engage in cyclical migration, so this section checks out the individual characteristics of a migrant within these migrant households. When we analyse the impact of individual indicators with household factors on migration decision, we undermine the importance of individual characteristics on migration decisions. There are more non-migrant individuals with the same aspect of migrant individuals. Secondly, the household is a unit of sample in NSS data collection, not the individual. It studies the individual within the sample households. So, it is reasonable to compare the households' level in NSS data. Thirdly, it is a very long debate between neoclassical and Marxian and NELM researchers to specify the measurement unit in migration research. Neoclassical theories have concluded that the individual characteristics played an essential role in migration decision, whereas the Marxian and NELM theory explains the households as a unit takes migration decisions. We have used both approaches to determine the relationship between different variables and migration decisions in rural India. In the first step, this study has analysed the decisions of migration at households' level. In the second step, we have investigated the impact of individual characteristics on migration decisions within migrant households.

The migration rate among migrant households is presented in Appendix - 4.3. Around 37 per cent of the working-age member of the migrant households engage in cyclical migration. Each migrant household has a single male person engaged in migrations. The migration rate among male working members is 55 per cent, whereas female members are just 23 per cent. The average age of the migrant member is 38 years, whereas it is 32 years for a non-migrant member of migrant households. Low educated, married and divorce, male working member of the migrant households have a higher chance of engaging in cyclical migration.

Within the migrant households, there are 80456 individuals in the working-age group; out of them, 28129 individuals engage in cyclical migration. Once the households decide to engage in migration, the second question arises who will migrate from those households? Table 2.5 presents the results of logistic regression of individual decision migration in rural India and

developed and underdeveloped states. All the individual characteristics significantly impact migration decision (See Appendix 2, Table 6). The gender of a person is significantly impacting migration decision. Male member has four-time higher chance to migrate than the female member of the migrant households. The predicted probability of cyclical migration is 0.45 (45 per cent) for the male member, and it is 0.17 (17 per cent) in case of the female member. The higher chance of male migration also found in both developed and underdeveloped states model separately. The second individual characteristic is marital status. Married persons have a one-and half-times higher chance to engage in migration than the never-married person. For widow or divorce a category, there is around three times higher chance to engage in migration than a never-married person within migrant households at all India level, and it is two-and-half-time in underdeveloped states and four-times in developed states. The predicted probability of widowed or divorce is 0.42 (42 per cent), whereas it is 0.28 (28 per cent) and 0.22 (22 per cent) among married and never-married persons, respectively.

Education is another crucial variable, which has a significant impact on migration decision. The low educated persons have a higher chance of migration than higher educated persons. The predicted probability is highest for primary educated, followed by illiterate. The odd ratio of secondary and higher secondary educated persons is less than one and significant, suggesting that the higher educated persons have less chance to engage in cyclical migration than illiterate members of the migrant household. The predicted probability of illiterate, primary, secondary and higher secondary and above educated groups are 0.32 (32 per cent), 0.33(33 per cent), 0.29 (29 per cent), 0.24 (24 per cent) respectively. A similar pattern of migration across education level is also found in both types of states. However, the gap in the chance of migration across education level is less in developed states than underdeveloped states.

The activity of an individual is another variable used to explain the cyclical migration decision. The members of other activity or non-economic activity groups have the highest chance of engaging in migration than the rest of all activity groups, followed by the unemployed, worker, domestic duties and education. The predicted probability of cyclical migration among other activity is 0.48 (48 per cent), whereas it is 0.46 (46 per cent), 0.43 (43 per cent), 0.22 (22 per cent) and 0.06 (6 per cent) among the unemployed, worker, domestic duties and education groups member of the migrant households respectively. There is no significant difference in the chance of migration among worker, unemployed and other activity groups in developed states, but it is significant in underdeveloped states.

Table 2.5: - Decision of individual engage in migration among migrant HH

Variables	Category	LR all India		LR Developed state		LR Under-Developed state	
		OR	PP	OR	PP	OR	PP
Sex	Male	4.075* (-60.02)	0.45	3.897* (-32.90)	0.47	4.139* (-49.04)	0.45
	Female	1	0.17	1	0.18	1	0.16
Marital status	Never Married	1	0.20	1	0.19	1	0.20
	Married	1.621* (16.03)	0.28	1.761* (9.74)	0.29	1.537* (12.05)	0.28
	Widowed	2.947* (20.82)	0.42	3.949* (15.24)	0.48	2.495* (14.3)	0.39
education	Not literate	1	0.32	1	0.32		0.32
	Up to Primary	1.045** (1.99)	0.33	1.105** (2.29)	0.34	1.02 (0.77)	0.32
	Up to secondary	0.88* (-4.74)	0.29	1.014 (0.28)	0.32	0.835* (-5.58)	0.28
	Higher secondary and above	0.664* (-14.94)	0.24	0.767* (-5.38)	0.26	0.633* (-13.45)	0.23
UPA	Working	1	0.43	1	0.44	1	0.43
	Unemployed	1.121** (2.05)	0.46	1.067 (0.57)	0.46	1.131*** (1.89)	0.46
	Education	0.091* (-32.9)	0.07	0.112* (-16.43)	0.08	0.084* (-28.33)	0.06
	Domestic duty	0.37* (-38.0)	0.22	0.445* (-16.62)	0.26	0.347* (-33.49)	0.20
	Others	1.217* (3.76)	0.48	1.047 (0.49)	0.45	1.299* (4.18)	0.49
Age		1.078* (15.49)		1.041* (4.22)		1.099* (16.56)	
Square of Age		0.999* (-13.6)		1.000		0.999* (-15.44)	
Constant		0.096* (-17.58)		0.16** (-2.40		0.07* (-17.17)	
No of Working Member		80456		21853		58603	
Omnibus Tests of Model Coefficients (Chi-square)		20693.1*		5075.4*		15806*.5	
Log-likelihood		83786.6* (1238.65)		23181.4* (296.03)		60080.6* (953.2)	
R^2		0.31		0.286		0.33	

Source- Authors' calculated from NSS 64th round (2007-08) unit-level data

Notes: - UPA- Usual Principal Activity. The value inside parenthesis explains the t-value. *, **, *** explains the 1%, 5% and 10% level of significance. PP- average predicated probability, OR- Odd Ratio.

The odd ratio of the age variable is greater than one and significant, which implies a positive relationship with the migration decision. Increasing in the age of working member has a higher chance of engaging in migration. It is the low educated, male and married, member of the migrant households has a higher chance to migrate in all India as well as in developed and underdeveloped states. However, the gap in the probability of migration is less in developed states than underdeveloped states across education, sex and marital status. The single male, low educated member dominates the cyclical migration to substantiate their livelihood. The cyclical migration is not a condition for better employment instead of a coping mechanism to sustain livelihood in all India as well as developed and underdeveloped states.

2.4.4 Model Specification

A robust estimation has been used in all logistic regression model. The Hosmer–Lemeshow test estimates whether or not the observed event rates match expected event rates at the subgroups level. In the LR and LR macro model, The Hosmer–Lemeshow test is highly significant. The omnibus test measures the overall specification of the model. The omnibus test is significant in all regression models, so there is no specification bias in any model. The log-likelihood test is also significant, suggesting that the overall model significantly predicts the variation in the dependent variable (migration decision). The Wald test's result specifies each variable's importance in the model (Appendix 2 Table 3 and Table 6).

2.5 Conclusion

It is a long debate about whether the migration decision has taken at the individual level or households level. The NELM researcher group (Stark & Bloom , 1985); (Taylor , 1999); have argued that the households as a unit take the migration decision. Current research on seasonal migration in India, (Keshari & Bhagat , 2012) has simultaneously taken individual and household characteristics at the individual level to evaluate the impact on seasonal migration. Similar research has also been done on semi-permanent migration (Parida & Madheswaran, 2011). This chapter has studied the decision of cyclical migration, which is a sum of seasonal and semi-permanent migration. This research has constructed a model on the migration decisions at household level in the first step and the impact of individual characteristics on the migration decisions within migrant households in the second step. So, in the first step, we have verified the chance of households engaging in cyclical migration, and in the second step, who are the individuals migrate from the migrant households. The MLLR model is used to verify the impact of households' characteristics on the decision of cyclical migration. In the MLLR model, households' characteristics have verified at first level or fixed effect, and the impact of macro variable as Gini of MPCE (Proxy of Inequality) and non-agricultural wage rate at region level (level two) GSDP per capita and percentage of population under BPL at the state level (level three).

The study found that micro and macro variables have a significant impact on the decision of migration. The MLLR model specifies that the households from lower social background, low land holding, low educated, labour and vulnerable households, female headed households, origin from low income or GSDP per capita state have a higher probability of engaging in cyclical migration in rural India as well as developed and underdeveloped states. It suggests

that cyclical migration is a livelihood strategy of poor households in rural India. The difference in the probability of migration across categories of different variables is less in developed states than underdeveloped states.

Further, the logistics regression model on the individual aspect of cyclical migration's decision suggests that the cyclical migration is dominated among the single lower educated male member of the migrant households. The cyclical migration is not a condition for better employment instead of a coping mechanism to sustain livelihood in all India as well as developed and underdeveloped states. However, the migration patterns seem to be changing in developed states from the livelihood strategy to the higher income generation. The two-step model suggests that the most vulnerable households have a high chance of engaging in cyclical migration in rural India. Further, the migration is dominated by low skill labourers mainly migrating to the different informal sector opportunities in the urban economy to survive. This survival strategy of the migrants are more in the underdeveloped states than the developed states. The migration pattern of developed states is moving towards the diversification of households' income.

Chapter III

Profile of the Study Area and Sample Selection

3.1 Introduction

For the eventual social and economic transformation of rural society, social scientists have understood the changes and developments in developing countries, including India. To understand agrarian society, the social scientists have developed different inquiry approaches, and stated a well recognise process of rigorous and in-depth village studies. In this process, social anthropologists have emphasised on the social and economic life in rural India, combined with castes, classes and power relations, and dynamics. They have taken village as a unit of analysis for their in-depth analysis of rural society. While conducting village surveys, the economists have focused on economic aspects of rural society, looked into predominant establishments that control the functioning of different rural markets including that of land, labour, credit and output, and interlocking nature of these markets. Several scholars have used a multi-disciplinary approach to analyse the socio-economic structure and relations within rural society/economy and understand it holistically. Over the years, the village society/economy has been exposed to external forces and factors. Exogenous and endogenous factors have created liveliness in the rural economy.

The centrality of the village in Indian society is not a new phenomenon. India had been imagined with its villages, for a long time. Perhaps during the Colonial period, Indian village acquired such centrality in the popular imaginations. The villages are the smallest units of India; they are self-sufficient, formed with integrated communities and tiny republics (Jodhka S. S., 2012). Although many scholars identified stratification of the village society on caste lines and appeared to them as a strange essential social institution, they have taken the Indian village as a community of collective actors having a peculiar political economy of subsistence exchange, referred to as *Jajmani* system or patron-client relations (Breman, 1974; 1985).

When it comes to Indian nationalists, many of them continued with such a popular imagination of Colonial discourse. However, for Mahatma Gandhi, the village is the authenticity of tradition. For Jawaharlal Nehru, the village is a centre of backwardness. While for Dr. B. R. Ambedkar, the village is a centre of oppression on caste lines. Dr. Ambedkar first time brought out the division and internal contradictions of village society/economy based on the caste system (Jodhka S. S., 2002).

Post-independence period writings based on intensive in-depth village studies critically examined the popular imagination of Colonial discourse. Many of the ethnographic nature of village studies initiated in the 1950s by western sociologists and social anthropologists and those of Indians who were trained in the west, while confirming the stratified nature of village society in India based on caste and class lines, it brought out the unequal exchange relations between these castes/classes (Srinivas, 1954; 1956; 1959; 1966; Breman, 1974; 1985; 1993). Economists such as Amit Bhaduri and Pranab Bardan, followed by scientists at ICRISAT, have shed light on prevailing agrarian relations and institutions in their studies (Bhaduri , 1973; 1981; Bardhan & Rudra, 1986; 1978). As mentioned, the rural economy is interlocked with agriculture, agrarian relations have drawn the attention of economists. They have observed the two prominent modes of exploitation by the landlord/rich peasant through low wage payment to the wage labourers and through usury by collecting very high interest. The cumulative effect of the later (usury) leads to perpetual bondage. This type of exploitation was referred to as 'semi-feudalism' (Bhaduri , 1973; 1981).

Over the period, the old informal but personal nature of patron-client relations, under ***jajamani*** system, changed to a new form of impersonalized formal contractual arrangements. In the absence of public social security arrangements, these contractual arrangements leave them disadvantaged (Jodhka S. S., 2012). Increasing transport and communication network facilitated out-migration, both rural-urban and rural-rural. On the one hand, the availability of better employment opportunities outside the village acts as a pull factor; on the other, inadequate employment opportunities within the village push them out in search of economic opportunities, referred to as distress migration (Breman, 1993; 1996).

On the background of socio-economic transformation in the rural economy, it is crucial to study the village economy in the current situation. This study has emphasized the impact of migration on rural society. How could migration impact the class relation and caste patronage? We have investigated nine villages from three districts of Odisha. This chapter consists of state, district and village profile of survey area. The second part of this chapter explains the process of data collection and the household's description.

3.2 How Odisha is Doing

Odisha is one of the high growth states in India in the last decades. The average economic growth rate of Odisha is more than 7 per cent. The per capita income (GSDP) of Odisha is more than 1.16 lakh, which is 24th rank across states of India (Odisha Economic Survey 2019-20). Odisha's sectoral composition elucidates that the industry and service sector contribute 40 per cent each and rest 20 per cent coming from the agricultural sector. In poverty eradication, Odisha performance is remarkable among the states of India. Percentage of the population under BPL has declined from 57.2 per cent in 2004-05 to 32.6 per cent in 2011-12, around 24 per cent decline in BPL percentage (Rangarajan Committee Poverty Report 2013). Odisha has improved rank in the percentage of BPL population from last to 24th rank among 29 states of India in the same period.

How far this growth of the economy replicates in the development indicators of Odisha? The SDG (Sustainable Development Goal) report of NITI Aygo, Odisha, lays in 25th position out of 29 states of India (NITI Ayog, 2018). In most SDG indicators, Odisha positions in the worse ten preferring states, except Gender Inequality and Life & Land indicators (See Appendix 3 Table 1). The Human Development Index (HDI) is another variable to measure economic, education, and health indicators. The value of HDI has been increasing between 1990 and 2018; however, Odisha's relative position has not shown much improvement. Amongst the 29 states of India, Odisha rank in HDI was third lowest in 1990, which declined to second last in 2000 (Human Development Report, 2004). However, in the recent period, Odisha rank in HDI among 29 states of India has improved to the fifth-lowest position[2]. In the hunger index, Odisha rank had declined from 5th to 12th among the major 17 states of India from 1993 to 2009 (See Appendix 3 Table 2). It had further declined to 23rd rank in the Zero Hunger Indicator of SDG index in 2018 (See Appendix 3 Table 1). The Multi-dimensional Poverty Index (MPI) is another measurement of development indicator. In MPI, Odisha rank had declined from 23rd to 24th position among India's 29 states from 2005 to 2015. In economic indicators such as GSDP growth and poverty eradication, Odisha performs substantively, but this economic development does not replicate in other development indicators. Odisha is one of the worse

[2] See https://globaldatalab.org/shdi/shdi/IND/?levels=1%2B4&interpolation=0&extrapolation=0&nearest_real=0 (Global Data Lab)

performing states of India across variety of development indicators. It ranks consistently in the worst five states of India in most development indicators in the last two decades.

3.3 Selection of Survey Districts

Odisha is one of the states experiencing high cyclical migration in India. Around 5.1 per cent of the working-age individuals were engaged in cyclical migration in rural Odisha in 2007-08 (NSS 64th round). This cyclical migration was contributing alternative source of income for 18.6 per cent of rural households of Odisha (NSS 64th round). This study tries to verify the role of social network in internal cyclical migration and the impact of migration on migrant households. The secondary data (NSS) does not give information regarding the social network of migration. So, the study depends on the primary data to verify the role of social network and the impact of internal cyclical migration. The study has used the multi-stage sampling method for the selection of district, village and sample households.

3.3.1 District Wise Migration Rate

There are thirty districts of Odisha. The migration rate is very high among the southern districts than the north and coastal districts. The survey has selected three districts of Odisha; to incorporate the socio-economic diversity and different migration patterns. There are eight most poor and vulnerable districts under the KBK region; we have selected Balangir district for our primary survey. Balangir district has the highest rate of seasonal migration across the districts of Odisha in NSS 64th round. Second survey district is Ganjam which has a significant level of both seasonal and semi-permanent migration. Ganajam also is one of the high semi-permanent migration rates as compared to other districts of Odisha. Third survey district is Baleswar; the seasonal, semi-permanent and cyclical migration rate of Baleswar district is similar to the respective average migration rate of rural Odisha (See Table 3.1).

The district-wise migration rate from the 64th round of NSS 2007-08 is presented in Table 3.1. The percentage of working-age individuals engaging in seasonal and semi-permanent migrations is 2 and 5.1 per cent respectively in rural Odisha. The percentage of individuals engage in cyclical migration is 7.1 per cent. The percentage of households depending on seasonal and semi-permanent migration is 5.4 and 14.4 per cent respectively in rural Odisha. Around one-fifth household of rural Odisha have been dependent on cyclical migration for their livelihood.

Table 3.1: - District wise migration rate in Odisha

District	Seasonal Migration rate (Individual)	Semi-permanent Migration Rate (Individual)	Cyclical Migration Rate (Individual)	Percentage of HH engage in Seasonal Migration	Percentage of HH engage in Semi-permanent Migration	Percentage of HH engage in Cyclical Migration
Baleswar	**0.70**	**4.50**	**5.20**	**4.6**	**15**	**19.4**
Bhadrak	0.00	9.60	9.60	0.1	33.8	33.9
Kendrapara	0.40	13.00	13.40	2.2	35.9	38.1
Jagatsinghapur	0.40	7.30	7.60	2.5	22.2	22.2
Cuttack	0.50	6.70	7.20	2.3	20.5	22.6
Jajapur	0.40	8.50	8.80	1.5	26.9	28.2
Nayagarh	1.10	10.00	11.10	5.9	27.7	33.6
Khordha	0.80	6.00	6.80	1.9	17.6	19.6
Puri	0.80	9.80	10.60	3.2	22.6	24.8
Ganjam	**3.30**	**10.00**	**12.90**	**10.4**	**20.4**	**29.7**
Gajapati	1.90	2.50	4.40	3.9	7.1	10
Kandhamal	4.20	1.50	5.80	19.1	4.1	23.2
Baudh	3.10	0.50	3.60	9.4	1.8	11.2
Sonapur	0.20	1.40	1.70	0.9	5.1	6
Balangir	**12.80**	**4.60**	**17.40**	**19.4**	**8.4**	**27.8**
Nuapada	2.40	2.10	4.40	7.1	5.8	12.7
Kalahandi	2.80	1.00	3.80	6.9	3	9.9
Rayagada	5.10	1.30	6.40	11.6	3.8	15.4
Nabarangapur	1.50	1.20	2.70	4	3.9	7.9
Koraput	3.60	1.00	4.60	11.8	3.4	15.3
Malkangiri	3.40	0.00	3.40	9.1	0	9.1
Bargarh	5.20	1.00	6.30	7.9	2.7	10.6
Jharsuguda	4.20	2.20	6.40	15.6	7.5	23.1
Sambalpur	1.10	2.40	3.30	3.6	6.1	9.5
Debagarh	0.00	2.90	2.90	0.3	10.7	10.9
Sundargarh	1.00	3.50	4.50	2.5	10.1	12.6
Kendujhar	0.10	3.30	3.40	0.3	10.1	10.2
Mayurbhanj	0.10	3.20	3.30	0.7	9.9	9.9
Dhenkanal	0.00	9.30	9.30	0	30.4	30.4
Anugul	1.20	2.80	4.00	1.8	8.7	10.5
Rural Odisha	2.00	5.10	7.10	5.4	14.4	19.5

Source- Author has Calculated from 64th Round of NSS 2007-08

The percentage of working-age individuals engaging in seasonal migration in Balangir district is 12.8 per cent, which is also the highest rate of seasonal migration across all Odisha's districts. Furthermore, around one-fifth of rural households of Balangir district have been dependent on seasonal migration. The semi-permanent migration rate is higher in the coastal part of Odisha. It is highest in Kendrapara followed by Ganjam and Nayagarh. Around one-third households of Bhadrak and Kendrapara district have been dependent on remittance of semi-permanent migration and it is one-fifth of households in Ganjam district. The cyclical migration rate is

highest in Balangir district, and Ganjam is in the third position in the cyclical migration rate. The migration rate of Baleswar district is similar as compared to aggregate average of rural Odisha.

The migration rates and geographical location in Odisha are taken into consideration for selecting the survey district. The study has selected three districts of Odisha as Balangir, Ganjam and Baleswar district for the primary survey; to capture the vast diversity in geography and migration streams. Pattern of migration and socio-economic characteristics of survey districts are explained in the following section.

3.3.2 Pattern of Migration Among Survey Districts

The cyclical migration rate differs across the social and land holding categories in survey district of Odisha. Table 3.2 represents the migration rate of survey districts across the social and land holding categories. Across the land-holding categories, the cyclical migration rate is high among landless, marginal and small farmers compared to the medium and large farmer over three survey districts. Across social categories, the cyclical migration rate among SC/ST individual is 24 per cent in Balangir district. And it is 6.6 per cent in Ganjam and 3.2 per cent in Baleswar District. Cyclical migration among SC/ST is highest as compared to other social categories. The OC social category has a significantly less cyclical migration rate in Balangir district. The Cyclical migration rate is highest among OBC followed by OC and SC/ST social categories in Ganjam and Baleswar district.

Table 3.2: - District wise individual cyclical migration rate across social and farm size categories in rural Odisha.

District	Social Categories			Land Holding Categories		
	SC/ST	OBC	OC	Land Less	Small and Marginal farmer	Medium and Large Farmer
Baleswar	3.2	6.7	5	4.3	5.7	0
Ganjam	6.6	19.5	7.8	13.7	12.7	0
Balangir	24.1	14	0.4	11.4	20.5	0.7
Rural Odisha	5.9	8	8.1	6.8	7.3	4.4

Source- Author has Calculated from 64th Round of NSS 2007-08
Note- ST- Schedule Tribe, SC- Schedule Caste, OBC- Other Backward Class, OC- Other Caste

The migration pattern is diverse across survey districts. The pattern of cyclical migration across gender and place of destination over survey district is presented in Table 3.3. Out of total migrants, 72.2 per cent are male, and 27.8 per cent are female. The migration pattern across gender is heavily male-dominated in Baleswar district.

Table 3.3: - Pattern of Cyclical Migration across Gender and Place of destination indifferent state of Odisha

District	Gender		Place of Destination	
	Male	Female	Intrastate	Interstate
Baleswar	72.2	27.8	25.00	75.00
Ganjam	58.5	41.5	23.00	77.00
Balangir	54.5	45.5	26.50	73.50
Rural Odisha	64.5	35.5	47.9	52.1

Source- Author has Calculated from 64th Round of NSS 2007-08

However, it has an equal share of male and female in Balangir followed by Ganjam districts. Out of total migrants, 54.5 per cent are male, and 45.5 per cent are female in Balangir district. It is 58.5 per cent male and 41.5 per cent female in Ganjam district. According to the destination place of the migrants, the migration pattern is highly skewed towards interstate migration across three survey districts. Around 75 per cent of migrants were migrating to other states in three survey districts. However, in rural Odisha, the migration pattern is equally divided between intrastate and interstate migration.

3.3.3 Socio-economic Structure of the Survey Districts

The selected districts have diverse patterns and rate of migration. The following section explains the socio-economic structure of the survey districts and Odisha state. The study has investigated the land and irrigation pattern, labour force participation, per capita net district domestic product, poverty rate, farm and non-farm wage rate. Table-4 represents the land and irrigation availability in the survey districts. Column-2 in Table 3.4 explains that the average rainfall is 1270 mm to 1600 mm in survey districts and 1450 in rural Odisha as a whole. Baleswar represents 2.45 per cent geographical area out of the total geographical area of Odisha. And it is 5.27 per cent and 4.22 per cent for Ganjam and Balangir districts respectively. Only 40 per cent of land is cultivated in Odisha.

The percentage share of cultivated land in the total geographical area of Odisha is 65.6, 49.45 and 52.66 per cent in Baleswar, Ganjam and Balangir districts respectively. The survey district has a higher share of the cultivated area than the state average. The net sown area explains the actual land cultivated once in the specific year. Out of total cultivated area, around 76, 96 and 80 per cent of land is cultivated at least once in the year in Baleswar, Ganjam and Balangir districts respectively. The average percentage of net sown area out of the total cultivable area in survey districts and Odisha are similar. The gross cropped area explains the cropping intensity of a region. The cropping intensity of Baleswar and Balangir district and Odisha are

same at 167 per cent. The cropping intensity of Ganjam district is 181 per cent. Balangir district has the lowest irrigation facility across survey districts. Only 17 per cent of cultivable land is irrigated in Balangir district. It is 51 and 40 per cent in Baleswar and Ganjam districts respectively. Around 36 per cent of cultivable land is irrigated in Odisha.

Table 3.4: - Land and irrigation facility in survey district in 2013-14 (in 000's ht)

District/ State	Rainfall (in mm) Normal	Geographical Area (per cent share)	Cultivable Area	Net Area sown	Gross Cropped Area (cropping intensity)	Net Irrigated Area
Baleswar	1592.0	381 (2.4)	250 (65.6)	191 (76.4)	322.2 (168.7)	127.7 (51.1)
Ganjam	1276.2	821 (5.3)	406 (49.5)	389 (95.8)	704.4 (181.1)	163.3 (40.2)
Bolangir	1289.8	657 (4.2)	346 (52.7)	292 (84.4)	489.4 (167.6)	60.3 (17.4)
Odisha	1451.2	15571	6180 (39.7)	5424 (87.8)	9054.1 (166.9)	2253.7 (36.5)

Source- Odisha Agricultural Statistics, 2013-14. Note- value in parenthesis explains in percentage

The Economic indicator of survey districts is presented in Table 3.5. The economic indicator includes workforce participation rate, wage rate, poverty rate, per capita net district domestic product (NDDP) and monthly per capita consumption expenditure (MPCE). The farm and non-farm wage rates were among the lowest at 67 and 117 rupees in Balangir district. The farm wage rate was 123 rupees, and the non-farm wage rate was 141 rupees in Baleswar district, whereas it was 91 and 118 rupees in Ganjam district. The gap between the farm and non-farm wage rates were around 20, 30 and 50 rupees in Baleswar, Ganjam and Balnagir districts. The gap between the farm and non-farm wage rate was also around 40 rupees in all Odisha level.

Table 3.5: - Economic Indicator of Survey District

District / State	Workforce Participation Rate (Rural)	Farm Wage rate (Rural)	Non-farm Wage rate (Rural)	Per capita NDDP (current price) *	Poverty Rate (% of BPL)	MPCE
Baleswar	54.7	122.59	141.32	20030	30	919.53
Ganjam	70.0	91.04	118.02	24288	25	1065.4
Balangir	69.2	65.05	117.62	20689	67	868.17
Odisha	62.86	98.61	141.59	24542	35	886.85

Source: - 68th round of NSS survey 2011-12, *NDDP- collected from Economic survey of Odisha 2011-12

The per capita NDDP was around 20000 in Baleswar and Balangir district, whereas it was around 24000 in Ganjam and all Odisha Level in 2011-12. The poverty rate in Odisha was 35 per cent. Around 67 per cent of the population were below the poverty line in Balangir district, and it is also the fourth-highest poverty rate district of Odisha. Average MPCE explains the economic condition of the district. The average MPCE is 1065 rupees in Ganjam, whereas in the range of 800 to 900 rupees in Balangir, Baleswar, and Odisha. Labour force participation rate in rural Odisha was 63 per cent. The labour force participation rate was 55 per cent in Baleswar and around 70 per cent in Balangir and Ganjam district in 2011-12.

3.3.4 Availability of Education and Health institution in Survey Districts

Other than economic condition, education and health are other vital indicators of development. Table 3.6 explains the availability of health care facility in the study district and all Odisha level. It also explains the supply of government health care facility in the state. Overall, the health care facility is better in Balangir district, and it is lowest in Baleswar district. The health care facility in Balangir district was similar to the health indicator in the state level.

The education is not only an indicator of current development; it also affects the development of future generation. Table 3.7 explains the availability of government education institution in the survey districts and Odisha. Across education indicators, Baleswar has more educational institutions followed by Balangir and Ganjam districts. The education available in the state level was similar to the educational availability of Balangir district.

Table 3.6: - Number of available Health Care Facility in the Study District

District	Primary Health Sub Center	Primary Health Center	Community Health Center	Allopathic Hospital	Other Hospital	Total Nos. Doctor
Balangir	215 (7670)	6 (2.7L)	6 (2.7L)	1 (16L)	14 (1.2L)	69 (24K)
Baleswar	190 (12213)	4 (5.8L)	6 (3.9L)	2 (12L)	5 (4.6L)	55 (42K)
Ganjam	391 (9026)	9 (3.9L)	7 (5.0L)	6 (5.9L)	37 (0.9L)	137 (26K)
All Odisha	5827 (7203)	134 (3.1L)	145 (2.9L)	109 (3.9L)	383 (1.1L)	2020 (21K)

Source: - Census 2011, Note- Figure in Parenthesis explain per unit service to the number of individuals, L represents Lakhs, and K represents Thousand.

Table 3.7: - Number of available Educational institution in the study District

District	Govt. Primary School	Govt. upper primary School	Govt. higher Secondary School	higher Secondary School	Degree College
Balangir	1969 (838)	766 (2153)	300 (5.5K)	48 (34K)	32 (51K)
Baleswar	2478 (936)	1341 (1730)	614 (3.8K)	76 (31K)	57 (41K)
Ganjam	3232 (1091)	1224 (2883)	559 (6.3K)	79 (45K)	33 (107K)
All Odisha	47719 (880)	20123 (2085)	8301 (5.1K)	1330 (32K)	752 (56K)

Source: - Census 2011, Note- Figure in Parenthesis explain per unit service to the number of individuals, L represents Lakhs, and K represents thousand.

3.4 Selection of Survey Village

3.4.1 Village Size (Population in person) in Survey District

Out of three selected districts, the study has selected nine villages, three villages from each district. In the selection of survey village, different size and proportional representation of SC and ST population are taken into consideration. Table 3.8 explains the number and percentage share of different size of villages in survey districts and Odisha. In Odisha, around 50 per cent

of the villages had less than 500 population and it is 33, 50 and 43 per cent in Balangir, Baleswar and Ganjam districts respectively.

Table 3.8: - Percentage share of different size of village in survey district and Odisha

District	<500	500-1000	1000-1999	>2000	Total
Balangir	584 (33.4)	693 (39.6)	376 (21.5)	98 (5.6)	1751 (100)
Baleswar	1313 (49.8)	661 (25.1)	457 (17.3)	204 (7.7)	2635 (100)
Ganjam	1185 (42.6)	577 (20.7)	646 (23.2)	375 (13.5)	2783 (100)
Odisha	24533 (51.5)	11978 (25.1)	7901 (16.6)	3263 (6.8)	47675 (100)

Source- Census-2011
Notes: - The value inside the parenthesis explains the row percentage.

Village with population size 500-1000 constitute 25 per cent of the entire villages in Odisha. There are 40, 25, and 21 per cent of such villages with a population range of 500 to 1000 in Balangir, Baleswar and Ganjam districts respectively. Population range from 1000 to 1999 village size is 17 to 23 per cent in the survey districts of Odisha. Around 6 to 8 per cent of the villages have more than 2000 population, except Ganjam district which has 13 per cent of village with population more than 2000 population.

The population share by size of village in the total population is explained in Table 3.9. Village with less than 500 population size has 9 to 16 per cent share in the total population. Village with 500 to 1000 population size has 25 per cent share of the total population in Odisha. Moreover, it is 34, 23 and 15 per cent share in Balangir, Baleswar and Ganjam districts. Village size with 1000 to 1999 population have around 30 to 33 per cent share of the population across survey districts and Odisha. The rest population are coming from villages with more than 2000 population size.

Table 3.9: - Percentage share of the population in different size of the village across the survey districts and Odisha

District	<500	500-1000	1000-1999	>2000	Total
Balangir	12.89	33.98	34.44	18.68	100
Baleswar	15.27	22.62	30.35	31.75	100
Ganjam	8.75	15.18	33.37	42.70	100
Odisha	16.13	24.41	31.14	28.32	100

Source- Census-2011

The selected village also represents small (less than 500 population) and medium-sized villages (500-1000 and 1000-1999 populations). In Balangir district, the selected village Baguda have 1287 population, and it is 625 and 388 in Sangurjibhata and Chauldia village respectively. Similarly, in Baleswar district, the selected villages Dahipur, Champ and Chasakhanda have 738, 807 and 1161 populations. In Ganjam district, survey villages' population size is 1133,

264 and 1597 in Putiapadar, Digapada and Dhanantara village respectively. The population size, number of households, sex ratio and SC & ST population percentage are given in Table 3.10. The sex ratio of most of the surveyed villages is similar to the sex ratio of the district.

The SC and ST population share in the surveyed villages is similarly representing the district picture. The socio-economic structure and relation are mostly the same across villages in India. There may be some difference in per cent and number across socio-economic variables in different villages, but the socio-economic structure and relation are mostly the same across India's village (Jodkha 2012, Srinivas 1955, Breman 1974). This argument permits to generalize the result of a village study in social relation and structural transformation perspective. It also gives flexibility in selecting study villages to understand the socio-economic relation and structure of the rural economy of Odisha (in India).

3.4.2 Demographic Profile of Survey Villages

For the primary survey, we have selected nine villages based on population size, SC and ST population share (accessibility) from three districts i.e, three villages from each district. The demographic indicator of survey villages, districts and state are presented in Table 3.10. Ganjam is the biggest district in size of population and area of Odisha, and it represents 8.4 per cent of the state population. Balangir and Baleswar population share in state population are 3.9 and 5.5, respectively. The population share of the respective block in their district ranges from 3 to 7 per cent. The population size of the surveyed village is explained above. The number of households in the survey villages also have a similar pattern to their population size. The sex ratio of Odisha is 978 females per 1000 males. It is 986 in Balangir, 956 in Baleswar and 983 in Ganjam district. Sex ratio in most of the survey villages is better than their district figure. The proportion share of SC and ST in the total population of the survey villages are representing a similar pattern as per their respective district figure.

The educational indicators of survey villages are presented in Table 3.11. The literacy rate in Odisha is 72.87 per cent, but all the survey districts have less literacy rate than the state figure. Literacy rate of survey village of Balangir district is less than 50 per cent. In the rest two districts, the literacy rate of survey village is more than the district rate. The same pattern of literacy rate has found in male and female separately. The male literacy rate is higher than the female literacy rate across survey districts and villages. Percentage of population completed matriculation is higher in Baleswar district's survey village followed by survey village of Ganjam and Balangir districts.

Table 3.10: - Demographic profile of the study area

	Total Pop	Number HH	Sex Ratio	% of SC Pop	% of ST Pop
State	4.2 cr		978	17.12	22.85
Balangir (Dist-1)	1648997 (3.93)	414749	986	17.87	21.05
Belpara (Block-1)	116136 (7.04)	28626	999	16.16	33.06
Baguda (village-1.1)	1287	346	1059	24.8	25.87
Khaprakhol (Block-2)	89819 (5.45)	23398	1023	12.45	37.61
Sangurjibhata (Village-1.2)	625	155	1140	9.0	67.04
Chauldia (Village-1.3)	388	99	960	33.76	10.05
Baleswar (Dist-2)	2320529 (5.53)	483406	956	20.62	11.87
Soro (Block-1)	140607 (6.06)	33538	941	20.63	6.23
Dahipur (Village-2.1)	738	188	942	37.94	12.34
Champo (Village-2.2)	807	173	959	48.57	0.41
Oupada (Block-2)	82917 (3.57)	19339	972	16.73	20
Chasakhanda (Village-2.3)	1161	317	974	39.02	22.4
Ganjam (Dist-3)	3529031 (8.41)	626661	983	19.5	3.37
Hinjilikatu (Block-1)	109877 (3.11)	24152	1038	26.16	0.08
Putiapadar (Village-3.1)	1133	251	1067	38.13	0
Digapada (Village-3.2)	264	67	1046	46.21	0
Seregada (block-2)	127807 (3.62)	26128	969	19.71	0.94
Dhanantara (Village-3.3)	1597	326	988	33	0

Source- Census-2011

Notes: - The value inside the parenthesis explains the percentage of states and district population

Table 3.11: - Education profile of the study Village

	Literacy rate	Male Literacy rate	Female Literacy rate	No of person Completed matriculation (%)
State	72.87	81.59	56.13	
Balangir (Dist-1)	64.72	75.87	53.5	
Belpara (Block-1)	48.33	59.23	37.44	
Baguda (village-1)	33.8	46.4	21.9	25 (1.94)
Khaprakhol (Block-2)	48.59	59	38.41	
Sangurjibhata (Village-2)	35.68	47.26	25.55	35 (5.6)
Chauldia (Village-3)	52.06	63.63	40	33 (8.5)
Baleswar (Dist-2)	69.86	76.10	63.35	
Soro (Block-1)	73.53	79.10	67.62	
Dahipur (Village-1)	76.84	79.16	74.34	29 (3.92)
Champo (Village-2)	69.14	75.73	62.28	126 (15.61)
Oupada (Block-2)	61.53	68.76	54.39	
Chasakhanda (Village-3)	65.98	76.19	55.50	216 (18.6)
Ganjam (Dist-3)	62.62	70.97	54.14	
Hinjilikatu (Block-1)	63.26	72.00	54.47	
Putiapadar (Village-1)	55.60	65.69	46.15	64 (5.64)
Digapada (Village-2)	75.38	81.40	69.63	45 (17.04)
Seregada (block-2_	60.78	69.77	51.43	
Dhanantara (Village-3)	60.49	69.24	51.64	127 (7.95)

Source- Census-2011

Notes: - The value inside the parenthesis explains the percentage of the population.

3.4.3 Basic Characteristics of Study Village

The administrative accessibility of the survey villages is presented in Table 3.12. Most of the survey villages in Balangir district are located around 80 km distance from district headquarter (Balangir). The survey villages of Baleswar and Ganjam district are located around 30 to 40 km distance from respective district headquarters. A similar distance across survey village is also found between survey villages and sub-district headquarters and block office.

Table 3.12: - Administrative accessibility among survey villages

Village Name	District head quarter (Distance)	Sub-District Head Quarter (Distance)	Block Office	Nearest Statutory Town (Distance)
Baguda (1.1)	Balangir (56KM)	Belpara (11 KM)	Belpara (11 KM)	Patanagarh (15KM)
Sangurjibhata (1.2)	Balangir (94KM)	Khaprakhol (25 KM)	Khaprakhol (25 KM)	Kantabanji (34KM)
Chauldia (1.3)	Balangir (92KM)	Khaprakhol (26 KM)	Khaprakhol (26 KM)	Kantabanji (34KM)
Dahipur (2.1)	Baleswar (37KM)	Soro (6 KM)	Soro (6 KM)	Soro (6 KM)
Champo (2.2)	Baleswar (40KM)	Soro (6 KM)	Soro (6 KM)	Soro (8 KM)
Chasakhanda (2.3)	Baleswar (22KM)	Nilagiri (15KM)	Oupada (11 KM)	Nilagiri (15KM)
Putiapadar (3.1)	Chhatarpur (32KM)	Purusottampur (7KM)	Hinijilikatu (15 KM)	Hinjilikatu (15 KM)
Digapada (3.2)	Chhatarpur (30KM)	Purusottampur (9KM)	Hinijilikatu (16 KM)	Hinjilikatu (16 KM)
Dhanantara (3.3)	Chhatarpur (52KM)	Seregada (10 KM)	Seregada (10 KM)	Hinjilikatu (12 KM)

Source: - Authors' Primary Survey 2017-18
Notes: - The value inside the parenthesis explains the distance from the village.

Table 3.13: - Communication Facility in the survey village

Village Name	Type road connected to village	Distance to State high way	Distance to National Haigh way	Bus service	Distance to Train station
Baguda (1.1)	Panchayat Road	6 KM	56 KM	6 KM	Kantabanji (30KM)
Sangurjibhata (1.2)	Panchayat Road	22 KM	94 KM	4 KM	Harishankar Road (8 KM)
Chauldia (1.3)	District Road	18 KM	92 KM	Available	Harishankar Road (5 KM)
Dahipur (2.1)	Panchayat Road	4 KM	4 KM	4 KM	Soro (5 KM)
Champo (2.2)	Panchayat Road	5 KM	5 KM	5 KM	Soro (6 KM)
Chasakhanda (2.3)	Panchayat Road	8 KM	6 KM	6 KM	Nilagiri Road (12 KM)
Putiapadar (3.1)	State Highway	Available	9 KM	Available	Berhampur (25 KM)
Digapada (3.2)	State Highway	Available	11 KM	Available	Berhampur (24 KM)
Dhanantara (3.3)	State Highway	Available	9 KM	Available	Berhampur (35 KM)

Source: - Authors' Primary Survey 2017-18
Notes: - The value inside the parenthesis explains the distance from the village.

The Communication is another most essential variable to understand the changing nature of the rural economy. It is also most important to explain the process of migration. Most of the survey villages of Balangir and Baleswar district have connected through panchayat road. The

state highway is available around 5 km distance from survey villages of Baleswar district and 12 to 15 km distance from the survey villages of Balangir district. The survey village of Ganjam district has connected with a state highway. Bus service is available within the 5 km of survey villages. Most of the survey villages are located within 25 km of the train station.

The educational facility in the surveyed village is presented in Table 3.14. The survey villages have a government primary school. Around 45 per cent of survey villages do not have government upper primary schools. The Children of these villages are going 3-4 km to access the upper primary education. The government secondary school are located 4-5 km distance from the survey villages. None of the survey villages has a higher secondary school in the village area. Nearest higher secondary schools and degree colleges are located 8 to 12 km away from the survey villages.

Table 3.14: - Availability of Educational institution in the survey village

Village Name	Govt. upper primary School	Govt. Secondary School	higher Secondary School	Degree College
Baguda (1.1)	Tentelmuda (4KM)	Tentelmuda (4KM)	Belpara (11 KM)	Belpara (11 KM)
Sangurjibhata (1.2)	Available	Karuanjhar (3 KM)	Lathor (7 KM)	Lathor (7 KM)
Chauldia (1.3)	Karuanjhar (3 KM)	Karuanjhar (3 KM)	Lathor (8 KM)	Lathor (8 KM)
Dahipur (2.1)	Available	Available	Soro (6 KM)	Soro (6 KM)
Champo (2.2)	Dahipur (3 KM)	Dahipur (3 KM)	Soro (8 KM)	Soro (8 KM)
Chasakhanda (2.3)	Available	Badaatta (7 KM)	Nilagiri (10 KM)	Nilagiri (10 KM)
Putiapadar (3.1)	Available	Nandika (2 KM)	Hinijilikatu (15 KM)	Hinijilikatu (15 KM)
Digapada (3.2)	Jamuni (3 KM)	Jamuni (3 KM)	Hinijilikatu (16 KM)	Hinijilikatu (16 KM)
Dhanantara (3.3)	Available	Available	Hinijilikatu (12 KM)	Hinijilikatu (12 KM)

Source: - Authors' Primary Survey 2017-18
Notes: - The value inside the parenthesis explains the distance from the village.

The health care facility is another indicator of development. Table 3.15 presents health care availability in the survey villages. Primary health centre and community health centre are the necessary and lowest healthcare facilities in rural India. Only Putiapadar and Dhanatara survey villages have primary health sub-centre within the village area, and for rest of the villages, it is located 4-5 km distance. The primary health centre is situated within 12 to 14 km from the survey villages. Moreover, the community health centre is situated within 20-25 km from the survey villages. We found that the average health care facility is similar across survey villages of three selected districts of Odisha.

Table 3.15: - Health facility in the survey village

Village Name	Primary Health Sub Center	Primary Health Center	Community Health Center
Baguda (1.1)	Mundodarha (5 KM)	N.A.	Belpara (11 KM)
Sangurjibhata (1.2)	N.A.	Lathor (9 KM)	Khaprakhol (25 KM)
Chauldia (1.3)	N.A.	Lathor (11 KM)	Khaprakhol (26 KM)
Dahipur (2.1)	Dahisada (3 KM)	Gopalpur (7 KM)	Soro (6 KM)
Champo (2.2)	Dahisada (4 KM)	Gopalpur (5 KM)	Soro (8 KM)
Chasakhanda (2.3)	Guhalia (9 KM)	Iswarpur (17 KM)	Khaira (26 KM)
Putiapadar (3.1)	Available	N.A.	Hinijilikatu (15 KM)
Digapada (3.2)	Putiapadar (2 KM)	N.A.	Hinijilikatu (15 KM)
Dhanantara (3.3)	Available	N.A.	Seregada (7 KM)

Source- Authors' Primary Survey 2017-18

The survey villages are selected based on their population size and proportion of SC and ST population. The proportion of SC and ST population is higher in the survey villages of Balangir, followed by the survey villages of Baleswar and Ganjam district. The survey villages of Balangir and Ganjam have similar literacy rate but less than the survey village of Baleswar district. A similar pattern is also found in the percentage of individuals who completed matriculation across survey villages. The administrative accessibility is nearer in Baleswar and Ganjam districts' survey villages than the survey villages of Balangir district. A similar pattern in communication facility is also found across survey village of three districts. The average government educational facility and health care facility are similar across survey villages.

Village with better infrastructure and communication facility have more access to the outside world. The migration rate positively relates to the availability of better infrastructure and communication facility in the village. The educational institution and health care facility provides good quality of worker. The communication facility helps to know about the availability of employment opportunity and easy way of mobility.

3.5 Selection of Sample Households

The household is the unit of the survey. The study has selected one-third households of the total households in the village for the primary survey. Census 2011 only gives information relating to population size and the number of households in the survey villages. It is essential to understand some basic characteristics of the population to choose sample household. In the first round of survey, all households were surveyed with a small questionnaire relating to caste, landholding and migration information. The population information of the village is serially listed, and every third household from the list is selected for the primary survey. Proportionate representation of all social groups (ST, SC, OBC and OC) are selected for sample households

from the serial households list. In selecting sample households, the survey has used systematic sampling at a random starting point within the population and uses a fixed, periodic interval to select a sample. The sampling interval is estimated as the population size of the subgroup in the village divided by the sample size.

3.5.1 Population Households of Study Village

In the study, the sample's starting point is selected randomly and uses a fixed interval of two to select all other samples. If the third selected household is not present at the time of the survey, the subsequent household in the population list is selected for the sample. The population size, sample size, proportional representation of each social and land holding group is explained in the following section. Information related to the population is presented in Table 3.15 and Table 3.16.

Table 3.16 presents the distribution of population households across social group for all survey villages. In Balangir district, Baguda village has 295 households out of which 26, 24, and 50 per cent are ST, SC, and OBC households respectively. The total number of residing households in Sangurjibhata village is 222, distributed across ST, SC, OBC and OC as 65, 12, 21 and 2 per cent respectively. Chauldia village has 135 households, in which 11, 40 and 49 per cent are the respective shares of ST, SC, and OBC households. In the survey villages of Balangir district, representation of OC households is minimal; only Sangurjibhata village has 2 per cent (three number of households) representation of OC households.

In Baleswar district, the survey village Dahipur has 174 households, out of which 38, 56 and 6 per cent represent SC, OBC and OC social categories households respectively. A similar pattern of representation is found in Champo village. The survey village Chasakhanda has 317 households, which is proportionally distributed across social categories. The survey village Dahipur and Champo do not have any ST population. Ganjam district has very less ST population compared to other districts of Odisha. We do not find any ST households in survey villages. The survey village Putiapadar have 226 residing households out of which 44, 27 and 29 per cent are SC, OBC and OC households respectively. A similar pattern of representation of SC, OBC and OC households is found in all three-survey villages of Ganjam district. So, total population households are 1906 out of which 16, 35, 39 and 10 per cent are ST, SC, OBC and OC households respectively.

Table 3.16: - Total number of households in the survey Village across Social Group in three survey districts of Odisha

District	Village Name	ST	SC	OBC	OC	Total (Row Total)
Balangir	Baguda	77 (26.1)	70 (23.72)	148 (50.17)	0 (0)	295 (100)
	Sangurjibhata	145 (65.32)	27 (12.16)	47 (21.17)	3 (1.35)	222 (100)
	Chauldia	15 (11.1)	54 (40.0)	66 (48.89)	0 (0)	135 (100)
Baleswar	Dahipur	0 (0)	66 (37.9)	98 (56.3)	10 (5.7)	174 (100)
	Champo	0 (0)	71 (48.63)	57 (39.0)	18 (12.33)	146 (100)
	Chasakhanda	63 (20.0)	125 (39.4)	109 (34.38)	20 (6.31)	317 (100)
Ganjam	Putiapadar	0 (0)	99 (43.8)	61 (27.0)	66 (29.2)	226 (100)
	Digapada	0 (0)	28 (43.75)	18 (28.1)	18 (28.12)	64 (100)
	Dhanantara	0 (0)	135 (41.28)	141 (43.12)	51 (15.6)	327 (100)
Total		300 (15.74)	675 (35.41)	745 (39.08)	186 (9.75)	1906 (100)

Source- Authors' Primary Survey 2017-18
Notes: - ST- Schedule Tribe, SC- Schedule Caste, OBC- Other backward class, OC- other Caste, Value inside parenthesis explain row percentage.

Table 3.17: - Total number of households in the survey Village across Land Holding Group in three survey districts of Odisha

District	Village Name	Land Less	Marginal Farmer	Small Farmer	Medium Farmer	Large Farmer	Total
Balangir	Baguda	40 (13.6)	178 (60.3)	53 (18.0)	24 (8.1)	0 (0)	295 (100)
	Sangurjibhata	34 (15.3)	97 (43.7)	39 (17.6)	40 (18.0)	12 (5.4)	222 (100)
	Chauldia	23 (17.0)	60 (44.4)	37 (27.4)	12 (8.9)	3 (2.2)	135 (100)
Baleswar	Dahipur	34 (19.5)	91 (52.3)	37 (21.3)	12 (6.9)	0 (0)	174 (100)
	Champo	49 (33.6)	65 (44.5)	16 (11.0)	6 (4.1)	10 (6.8)	146 (100)
	Chasakhanda	104 (32.8)	121 (38.2)	50 (15.8)	27 (8.5)	15 (4.7)	317 (100)
Ganjam	Putiapadar	73 (32.3)	73 (32.3)	43 (19.0)	21 (9.3)	16 (7.1)	226 (100)
	Digapada	17 (26.6)	29 (45.3)	9 (14.1)	9 (14.1)	0 (0)	64 (100)
	Dhanantara	83 (25.4)	175 (53.3)	52 (15.9)	12 (3.7)	5 (1.5)	327 (100)
Total		457 (24)	889 (46.6)	336 (17.6)	163 (8.5)	61 (3.2)	1906 (100)

Source- Authors' Primary Survey 2017-18
Notes: - The value inside the parenthesis explains the row percentage.

Table 3.17 explain the distribution of population households across land holding group in all survey district. The survey villages of Balangir district have a smaller number of landless households compared to the survey village of Baleswar and Ganjam district. Out of total population households, the share of landless, marginal, small, medium and large farmers is 24, 47, 18, 9 and 3 per cent correspondingly.

3.5.2 Sample Households of Study Village

Proportional Stratified random sample technique is used to select the sample households. The population is stratified based on social and land holding categories. The following section explains the proportional representation of sample in population across social and land holding categories. Table 3.18 presents the comparison of sample and population households across social categories. The value inside first parenthesis in each shell represents the share of sample households in their respective population sub-group. Across the village, sample households represent one-third of population households. In each village, the sub-group population's representation in sub-group sample ranges from 25 to 40 per cent. The value inside second parenthesis explains row percentage of sample households of each village. It includes a total of 651 samples from nine villages. The proportional share of each social group ST, SC, OBC and OC is 14, 38, 38 and 9 per cent, respectively.

Table 3.18: - Number of HH selected for primary Survey in the village and their proportion to the sub-group population across Social Group

District	Village Name	ST	SC	OBC	OC	Total (Row Total)
Balangir	Baguda	(28.6) 22 (23.2)	(32.9) 23 (24.2)	(33.8) 50 (52.6)	(0) 0 (0)	(32.2) 95 (100)
	Sangurjibhata	(30.3) 44 (58.7)	(40.7) 11 (14.7)	(40.4) 19 (25.3)	(33.3) 1 (1.3)	(33.8) 75 (100)
	Chauldia	(46.7) 7 (16.3)	(33.3) 18 (41.9)	(27.3) 18 (41.9)	(0) 0 (0)	(31.8) 43 (100)
Baleswar	Dahipur	(0) 0 (0)	(34.8) 23 (37.1)	34.7) 34 (54.8)	(50.0) 5 (8.1)	(35.6) 62 (100)
	Champo	(0) 0 (0)	(35.2) 25 (51.0)	(31.6) 18 (36.7)	(33.3) 6 (12.2)	(33.6) 49 (100)
	Chasakhanda	(30.2) 19 (16.8)	(42.4) 53 (46.9)	(32.1) 35 (31.0)	(30.0) 6 (5.3)	(35.6) 113 (100)
Ganjam	Putiapadar	(0) 0 (0)	(34.3) 34 (44.7)	(34.4) 21 (27.6)	(31.8) 21 (27.6)	(33.6) 76 (100)
	Digapada	(0) 0 (0)	(46.4) 13 (50.0)	(33.3) 6 (23.1)	(38.9) 7 (26.9)	(40.6) 26 (100)
	Dhanantara	(0) 0 (0)	(37.8) 51 (45.5)	(34.0) 48 (42.9)	(25.5) 13 (11.6)	(34.2) 112 (100)
	Total	(30.7) 92 (14.1)	(37.2) 251 (38.5)	(33.4) 249 (38.2)	(31.7) 59 (9)	(34.1) 651 (100)

Source- Authors' Primary Survey 2017-18

Notes: - ST- Schedule Tribe, SC- Schedule Caste, OBC- Other backward class, OC- other Caste. The value inside the first parenthesis explains the percentage of the population included in the sample from their respective sub-group population. The value inside the second parenthesis explains the row percentage of sample households. The absolute figure is the number of households surveyed from the respective sub-group.

The comparison of sub-group sample representation in sub-group population across land holding (Actual/reported land holding) categories is presented in Table 3.19. The sample representation in the sub-group population ranges from 25 to 40 per cent across land holding categories. In the total sub-group sample, landless households' representation in sub-group of the landless population is 34 per cent, and it is 36, 29, 27, 29 and 34 per cent in marginal, small,

medium and large farmer, respectively. The shares of landless, marginal, small, medium and large farmers in total sample are 26, 49, 15, 7 and 3 per cent, correspondingly. The survey sample has included nearly one-third of social and land holding categories of population. The proportional stratified random sample technique is used to select the sample households. The population is stratified based on social and land holding categories.

Table 3.19: - Number of HH selected for primary Survey in the village and their proportion to sub-group population across land holding Group

District	Village Name	Landless	Marginal Farmer	Small Farmer	Medium Farmer	Large Farmer	Total (Row Total)
Balangir	Baguda	(40.0) 16 (16.8)	(34.3) 61 (64.2)	(24.5) 13 (13.7)	(20.83) 5 (5.3)	(-) 0 (-)	(32.2) 95 (100)
	Sangurjibhata	(32.3) 11 (14.7)	(34) 33 (44.0)	(33.3) 13 (17.3)	(32.5) 13 (17.3)	(41.67) 5 (6.7)	(33.8) 75 (100)
	Chauldia	(30.4) 7 (16.3)	(35) 21 (48.8)	(27) 10 (23.3)	(33.3) 4 (9.3)	(33.3) 1 (2.3)	(31.8) 43 (100)
Baleswar	Dahipur	(38.2) 13 (21.0)	(39.6) 36 (58.1)	(27) 10 (16.1)	(25.0) 3 (4.8)	(0) 0 (0)	(35.6) 62 (100)
	Champo	(36.7) 18 (36.7)	(32.3) 21 (42.9)	(25) 4 (8.2)	(33.3) 2 (4.1)	(40.0) 4 (8.2)	(33.6) 49 (100)
	Chasakhanda	(35.6) 37 (32.7)	(41.3) 50 (44.2)	(32) 16 (14.2)	(25.92) 7 (6.2)	(20.0) 3 (2.7)	(35.6) 113 (100)
Ganjam	Putiapadar	(35.6) 26 (34.2)	(34.2) 25 (32.9)	(34.9) 15 (19.7)	(28.57) 6 (7.9)	(25.0) 4 (5.3)	(33.6) 76 (100)
	Digapada	(47.1) 8 (30.8)	(48.3) 14 (53.8)	(33.3) 3 (11.5)	(11.1) 1 (3.8)	(0) 0 (0)	(40.6) 26 (100)
	Dhanantara	(42.2) 36 (31.3)	(34.3) 59 (53.6)	(25.0) 13(11.6)	(25.0) 3 (2.7)	(20.0) 1 (1.0)	(34.2) 112 (100)
	Total	(37.4) 172 (26.3)	(36.1) 320 (49.3)	(28.9) 97 (14.9)	(27.0) 44 (6.7)	(29.5) 18 (2.77)	(34.1) 651 (100)

Source & Note: - Same as Table 3.18

3.5.3 Land Weightage

The study includes sample households from nine villages located in three districts of Odisha. Productivity and land quality of each survey districts are different from each other; mostly the Balangir district is entirely drought-prone, whereas Baleswar and Ganjam districts are coastal belt. We have use productivity weightage to recalculate the landholding of Baleswar and Ganjam district based on the landholding of Balangir district. This productivity weightage explains how much the land productivity (in price production) of each district is more than the land productivity of Balangir district. The productivity weightage is average productivity of each district divides by per acre productivity of Balangir district.

Table 3.20 presents the rice productivity and productivity weightage across survey district. Average rice yields per acres in Balangir is 1118.6 kg, whereas it is 1945.9 and 2139.6 Kg in Ganjam and Baleswar districts respectively. So, the average productivity of rice in Ganjam district is nearly 1.7 times higher than the average rice yields of Balangir district. The average rice yield of Baleswar district is 1.9 times higher than the average rice yield of Balangir district. We have multiplied this productivity weightage with their respective landholding to compare the landholding across survey district.

Table 3.20 Rice (Paddy) productivity and weightage across survey district.

District	Rice productivity (yield per acres)	Minimum	Maximum	Std. Dev.	N	Productivity Weightage
Balangir	1118.64	625.00	1750.00	309.35	126.00	1
Ganjam	1945.86	1228.57	2875.00	278.31	159.00	1.7
Baleswar	2139.56	1333.33	3705.88	236.10	157.00	1.9

Source- Authors' Primary Survey 2017-18

After the use of land weightage, the sample households across land holding categories have changed, which is presented in table 3.21. After land weightage, the number of marginal farmers declines to 261, and the number of medium farmers increased to 77 and large farmer to 44 numbers in total sample. The proportionate share of marginal farmer declined to 40 per cent, whereas the share of large and medium farmer increased 11.8 and 6.8 percentage point. The land weightage categories are going to use in our further analysis.

Table 3.21 Row percentage of surveyed household after use of land weightage across land holding categories over survey districts

District	Landless	Marginal Farmer	Small Farmer	Medium Farmer	Large Farmer	Total
Balangir	34 (15.9)	109 (51.2)	39 (18.3)	21 (9.9)	10 (4.7)	213 (100.0)
Baleswar	68 (30.5)	78 (35.0)	33 (14.8)	25 (11.2)	19 (8.5)	223 (100.0)
Ganjam	70 (32.6)	74 (34.4)	25 (11.6)	31 (14.4)	15 (7.0)	215 (100.0)
Total	172 (26.4)	261 (40.1)	97 (14.9)	77 (11.8)	44 (6.8)	651 (100.0)

Source- Authors' Primary Survey 2017-18

Notes: - The value inside the parenthesis explains the row percentage of sample households. The absolute figure is the number of households surveyed from respective sub-group.

3.6 Conclusion

The study of rural society is essential to understand the current development process in developing countries like India. The migration is connecting rural and urban society. The study of migration required in-depth research on the decision and process of migration. The in-depth study needs a primary survey of village society. This study surveys the village society and their interrelationship and exchange in the rural economy. Different regions have been selected in the field survey on the basis of pattern of migration to compare the socio-economic condition, process, and impact of migration in rural society.

Odisha state has been selected for the survey because of a high rate of cyclical migration. There are thirty districts in Odisha, out of which three districts have been selected for the survey on the basis of pattern of migration and their economic rank in the state. From each district, three villages have been selected for the survey. The diverse population size and proportional representation of SC and ST population are taken into consideration in the selection of survey villages. From each survey village, around one-third of households have taken for sample households through a proportionate stratified random sampling method, where social and landholding categories used to stratify the selected villages. The survey has included 651 sample households from 1906 population households. So, the selected sample is around 34 per cent of population households.

Chapter IV

Socio-economic Condition of the Survey Households

4.1 Introduction

This chapter explains the socioeconomic condition of survey households. The socioeconomic situation elucidates through the stock of resources and flows of income. The stock of resources includes land, house and other assets. The income flow has income from agriculture, forest collection, livestock, non-farm self-employed, farm labour, non-farm labour (MGNREGA work also included), salary earning. The net income from agriculture is calculated through deduction of total labour and capital cost from gross revenue (total produce output X average selling price). The income from the collection of forest product is a simple multiplication of total collected output with their average sold price[3]. The livestock income incorporates current income due to milk, meat production; the stock value of the livestock is not covered. The earning from non-farm self-employed activities is self-reporting earning on a weekly and monthly basis. The income from farm labour is estimated through the multiplication of average wage rate with days of employment in the last agricultural season—the same way the income from non-farm labour is calculated. The household's income is the sum of the individual income from different sources.

4.2 Assets and Wealth ownership of survey households

Livelihood depends on the flow and stock of resources. The wealth explains the stock of resources, which can be used in the contingency. So, wealth decreases uncertainty and supports to cope with vulnerability. In the wealth variables, we have examined the land and housing condition of survey households.

4.2.1 Land Ownership

Livelihood includes different source of stable income for the households. Agriculture and allied activities are the most crucial and stable source of livelihood in rural India. Still, around 50 per cent of the labour force are employed in agriculture in rural India. It is 70 per cent in the case of Rural Odisha. Agriculture is directly linked with land holding. So, land is one of the most critical assets and source of livelihood in rural India. Most of the rural studies have used the

[3] The forest products are collected through family labour, none of the households paid any wage in the collection of forest product. So, we did not deduct the labour cost from the gross revenue of forest product.

land variable to analyse the class relations (Breman J. , 1985); (1989); (Jodhka S. S., 1994); (2012). This study has also collected information regarding the landholding and used it as a proxy to the class variable. Table 4.1 represents the average landholding and land distribution across social groups over land owned categories.

The landholding pattern across the survey district reveals that the percentage of landholding households is high in drought regions like Balangir district. The average amount of land holding per household is also high in Balangir district compared to Baleswar and Ganjam district. But after use of land weight (see chapter 3), the average land holding per household is higher in coastal region (Baleswar & Ganjam districts) than the drought region (Balangir district). Around half of the SC households do not holding land across social group, followed by ST, OBC and OC households. In Balangir district, the highest proportion of ST households holding land, followed by OBC and SC households. The land quality is not suitable for cultivation and mostly unirrigated and fills with hilly region[4]. In Baleswar district, landholding is directly linked with social hierarchy; all OC households holding land, followed by OBC, ST and SC households. The same pattern of landholding is found in Ganjam district. Across survey districts, the percentage of SC/ST households land ownership decreases with an increase in land quality.

One-fourth of the survey households are landless, and rest three-fourth holding land. The amount of land holding highly unequal among survey households. The 40 per cent of survey households are coming under marginal farmer (0.01 to 2.5 acres) group capturing 20 per cent of agricultural land, and they hold averagely 1.5 acres. Another 15 per cent of survey household are coming under small farmer (2.6 to 5 acres) group covering 17 per cent of agricultural land, and the average landholding among the small farmer is 3.3 acres. Moreover, it is 11.8, and 6.8 per cent of survey households are coming under medium and large farmer groups capturing 26.3 and 36.3 per cent of agricultural land with average land holding 6.5 and 15.8 acres per households, respectively. The landholding is highly biased towards upper social strata. Across social group, around half of the survey households from SC, ST and OBC category are coming under marginal farmer group, and it is only one-eight among OC households. The percentage of households coming under small farmer group has declined to 18.5, 8.3 and 20.6 per cent

[4] Among the survey village only 22.87 percent of cultivable land are irrigated and 17 Percentage of land is under irrigation in Balangir district. It is 40 and 51 percent in Ganjam and Baleswar district. So, we have use Land weight (Productivity weight) in calculation of land categories and land ownership where the land productivity of drought region (Balangir district) is base in weightage calculation.

among ST, SC and OBC group, and another one-eighth among OC households. The percentage of households coming under medium farmer group is 9.8, 4.4 and 15.7 per cent among ST, SC and OBC group, but it is 30.5 per cent among OC households. Only 6.5 and 5.6 per cent of ST and OBC households are coming under a large farmer group, whereas 39 per cent are among OC households. The average landholding decreases with the increase in social hierarchy. The average landholding among ST, SC, OBC and OC are 2.7, 1.1, 3.0 and 9.5 respectively.

Table 4.1: The average land holding and distribution among land holding group across social group

Social Group	Land Less	Marginal Farmer	Small Farmer	Medium Farmer	Large Farmer	Total
ST	(15.2) 0 (0)	(50.0) 1.5 (25.2)	(18.5) 3.3 (21.2)	(9.8) 6.0 (20.4)	(6.5) 14.6 (33.2)	(100) 2.7 (100)
SC	(47.2) 0 (0)	(39.7) 1.3 (50.1)	(8.3) 3.0 (23.4)	(4.4) 6.5 (26.5)	——	(100) 1.1 (100)
OBC	(14.9) 0 (0)	(43.1) 1.5 (21.5)	(20.6) 3.4 (22.8)	(15.7) 6.4 (32.4)	(5.6) 12.9 (23.3)	(100) 3.0 (100)
OC	(3.4) 0 (0)	(13.6) 1.8 (2.5)	(13.6) 3.5 (4.9)	(30.5) 6.8 (21.8)	(39.0) 17.3 (70.7)	(100) 9.5 (100)
All HH	(26.4) 0 (0)	(40.1) 1.5 (20.1)	(14.9) 3.3 (17.0)	(11.8) 6.5 (26.3)	(6.8) 15.8 (36.6)	(100) 2.8 (100)

Source- Author's Primary Survey 2018

Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other castes/category, HH- Households. The value inside the first parenthesis () explains the row percentage of sample households, and the value inside the second parenthesis () explains the row proportionate of landholding. The absolute value in each cell explains the average landholding.

4.2.1.1 Irrigation facility

The productivity of land is positively linked with the irrigation facility. We have investigated the percentage of land irrigated, and average holding of irrigated land across social and land owned categories (see Table 4.2). Across the survey district, around 23 per cent of cultivable land among the survey households is irrigated in Balangir district. In contrast, it is 80 and 39 per cent among the survey households of Baleswar and Ganjam district[5]. Across social group, SC has the lowest average landholding followed by OBC, ST and OC households, but the average amount of irrigated land owned among the ST households is second lowest. Percentage of irrigated landholding increases with an increase in the social hierarchy. The ST households hold a significant proportion of land, but land quality does not match with OBC and OC households. A higher proportion of SC households are landless and the average landholding

[5] Percentage of area under irrigation in Balangir, Baleswar and Ganjam district are 17, 51 and 40 percent respectively.

also lowest compared to other households. Percentage of irrigated land is significantly very high in Baleswar followed by Ganjam and Balangir districts. Across Social categories, Average and percentage of irrigated land owned is very low among SC & ST compared to OC households. Across land owned categories, the percentage of irrigated land does not much very across; it increases from 46 to 51 percentage with the raise of landholding categories.

Table 4.2: - Average Irrigated land holding across Survey Districts, Social Group and Land Holding Group

Variable	Category	Average land owned	Average Irrigated land holding	Percentage of land irrigated
Survey District	Balangir	2.4	0.93	22.87
	Baleswar	3.0	1.88	80.37
	Ganjam	3.0	1.07	39.71
Social Group	ST	2.7	0.79	23.19
	SC	1.1	0.56	45.12
	OBC	3.0	1.28	53.66
	OC	9.5	3.17	56.27
Land Holding Group	MF	1.5	0.55	46.35
	SF	3.3	1.63	46.40
	MDF	6.5	3.01	47.16
	LF	15.8	6.76	51.50
All HH		2.8	1.24	46.63

Source- Author's Primary Survey 2018
Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other Castes/Category
Note- LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer

4.2.1.2 Land Tenancy

The land ownership and quality of house explain the wealth situation of the households. The income flow mostly depends on rent on land, agriculture, non-farm activity and labour work. The following section explains about different sources of income flow of the households. Most households in rural India are direct or indirectly dependent agricultural source of Income. It is challenging to calculate net income from agricultural activity[6]. We have collected data on tenancy, cropping pattern, production, agricultural investment, and average price level to find their net profit out of agriculture. The land tenancy among the survey households is presented in Table 4.3. The percentage of households engaged in land tenancy is higher in Ganjam and

[6] Most farmer use their family labour in agriculture, it is very difficult to calculate actual cost of family labour use in agriculture.

Baleswar than the Balangir district. Across social and land owned categories, a higher percentage of OC in social and medium and large farmers in the landholding categories has leased out 70 to 80 per cent of their land. Moreover, the ST, SC among social categories and landless and marginal farmer in landholding categories has leased in land. The average amount of leased in land ranges between 1 to 2.9 acres.

Table 4.3: - Land tenancy among survey households across Survey Districts, Social Groups, and Land Holding Groups

Variable	Category	Leased out land					Leased in land				
		Per cent of HH	Average Amount of Land	Contract		amount received per acre of land	Per cent of HH	Amount of Land	Contract		amount paid per acre of land
				F	S				F	S	
Survey District	Balangir	4.2	2.2 (66.9)	77.8	22.2	5827	5.7	1.8	83.3	16.7	4939
	Baleswar	11.7	5.7 (78.0)	38.5	61.5	6340	36.5	1.6	48.1	51.9	6380
	Ganjam	13.5	5.0 (86.9)	51.7	48.3	7337	38.6	2.0	60.2	39.8	7043
Social Group	ST	3.3	1.9 (48.0)	100.0	0.0	4982	17.4	1.84	68.8	31.3	5343
	SC	0.4	1 (100)	0.0	100.0	8000	41.4	1.83	51.0	49.0	7220
	OBC	10.5	3.7 (81.2)	50.0	50.0	6444	21.9	1.74	61.1	38.9	5830
	OC	57.6	6.2 (82.2)	47.1	52.9	7046	3.4	1.60	100.0	0.0	4708
Land Holding Group	LL	0.0	.	0.0	0.0	.	44.2	1.7	60.5	39.5	6349
	MF	2.5	1.6 (97.3)	75.0	25.0	7172	29.2	1.8	51.6	48.4	6840
	SF	22.7	3.0 (81.6)	45.5	54.5	6880	7.2	2.9	71.4	28.6	5995
	MDF	48.8	4.7 (72.3)	28.6	71.4	7072	0.0	.	0.0	0.0	.
	LF	72.2	10.4 (81.6)	76.9	23.1	5602	0.0	.	0.0	0.0	.
All HH		9.9	4.9 (80.5)	50.0	50.0	6720	27.1	1.80	56.3	43.8	6594

Source & Note[1]: - Same as Table 4.2. Note[2]- F-Fixed Contract, S- Share Contract. The value inside the parenthesis explains the average amount of percentage of land leased out.

The tenancy contract varies according to the quality of land. This land contracts and the quality of land explain the burden of production risk in agriculture. In Balangir, near to 80 per cent of the land tenancy are fixed-rent contract[7]. However, in Baleswar and Ganjam district, the fixed and share contract in the land tenancy is 50 percent each. The percentage of land irrigated is lower among survey households of Balangir district than in Baleswar and Ganjam districts.

[7] In Balangir land tenancy are different than the general tenancy pattern. We have found that marginal, small farmer group have leased out land and the marginal, small farmer group and land less households have leased in land. The Marginal and small farmer have sold the user right of land with some fixed amount (i.e, averagely 5827 rupees per acres). And the Buyer of user right of land cultivate land till the repay the initial amount. We can also interpret it as the seller took a credit on the basis of land without any interest till, they repay the initial amount. And the lender calculates the user right over land as their interest payment.

The landowner leased out land on a fixed contract if the land does not have irrigation facility; otherwise, they choose share contract. So, it is the owner of land who decides the form of lease contract. The owner maximise return through a fixed contract of leased out on unirrigated land and share contract on irrigated land.

4.2.2 Housing Condition

Housing is one of the major physical assets of any households. The following Table 4.4, explains about the quality of the house own by survey households. All the survey households have their own house. The quality of the house differs across social and landholding categories. Around 40 per cent of households construct their house with a concrete wall and RCC roof through the government housing scheme. Access to different government housing schemes is higher among Baleswar survey households, followed by Balangir and Ganjam[8].

The average number of rooms in a house is around 4, and 70.7 per cent of the house have a concrete wall with RCC roof. If we exclude the government facilitated house, only 30 per cent of households make concrete wall with RCC roof out of their own spending. The government housing scheme is a major part of constructing a house among the survey households. Still, around 12 per cent of households have house with a concrete wall and Tiles and Asbestos roof, and another 17 per cent of households have house with mud wall with Tiles, Asbestos and Thatch roof[9]. Across survey district, 61.5 per cent of households from Balangir district have a house with concrete wall with RCC roof, and it is 65.9 and 84.7 per cent among the survey households of Baleswar and Ganjam district. Across social group, around 88.1 per cent of OC households have houses with a concrete wall with RCC roof, and it is 57.6, 75.0 and 66.9 per cent among ST, SC and OBC category, respectively. Higher proportion SC households have a house with a concrete wall and RCC roof because of the government facilitated scheme[10]. Without government scheme, only 13.5 per cent of SC households build a house with a concrete wall and RCC roof out of their own expenditure, and it is 21.3, 38.6 and 76.2 per cent among ST, OBC and OC households, respectively. Across farm size group, the percentage of

[8] Across social and landholding categories, a higher proportion of socioeconomically lower strata of society get facilitated government housing scheme than upper strata of society. So, across socioeconomic class, the quality of house is normalised due to government scheme.

[9] Most of the household's report that, there are high level of corruption and politics to acquire a house in government housing scheme.

[10] In the housing scheme caste and class factor in the decision of priority households. Secondly the ST households have bigger land holding compare to SC households, which is a reason for higher priority for SC households in housing scheme.

households have built a house with a concrete wall and RCC roof increases with the increment in land size. Most landless and marginal farmers construct a house with a concrete wall and RCC roof through government facilitated housing scheme. This housing scheme is the main reason for the low difference in the quality of house across farm size and social categories.

Table 4.4: - Housing structure and quality (Major part of House) among the survey households across survey district, social group and land holding group.

	Variable	No. of room in the House	No. of room type1 house	Concrete wall with RCC roof	Concrete wall with Tiles roof	Concrete wall with Asbestos roof	Mud Wall with Tiles roof	Mud Wall with Asbestos roof	Mud Wall with Thatched roof	whether Govt facilitated for house construction	
										Yes	No
Survey District	Balangir	4	3	61.5	11.7	6.1	10.8	1.4	8.5	38.2	61.8
	Baleswar	4	3	65.9	0.0	11.7	2.7	12.6	7.2	48.2	51.8
	Ganjam	3	3	84.7	0.5	6.5	0.0	5.6	2.8	35.8	64.2
Social Group	ST	4	3	57.6	10.9	6.5	8.7	3.3	13.0	36.3	63.7
	SC	3	2	75.0	1.6	5.6	3.6	6.3	7.9	61.5	38.5
	OBC	4	3	66.9	4.8	11.7	4.8	9.3	2.4	28.3	71.7
	OC	4	4	88.1	0.0	6.8	0.0	1.7	3.4	11.9	88.1
Land Holding Group	LL	3	2	69.8	2.3	6.4	3.5	8.7	9.3	59.3	40.7
	MF	3	2	68.2	5.4	6.9	7.3	6.5	5.7	44.4	55.6
	SF	4	3	64.9	6.2	16.5	3.1	4.1	5.2	24.7	75.3
	MDF	5	4	80.5	1.3	7.8	1.3	5.2	3.9	27.3	72.7
	LF	6	5	84.1	2.3	4.5	0.0	6.8	2.3	6.8	93.2
All HH		4	3	70.7	4.0	8.1	4.5	6.6	6.1	40.8	59.2

Source & Note: - Same as Table 4.2

4.2.3 Accessibility of electricity, drinking water, sanitation facility and cooking fuel

The quality of house also includes electricity, drinking water, sanitation facility and cooking fuel. The percentage of households' access to such facilities is presented in Table 4.5. Around 71 per cent of survey households have their own latrine, and most of them constructed it through Swatch Bharat Aviyan Scheme[11]. In Balangir district, people rarely use latrine; only the female member use it in an awkward time. In Ganjam and Baleswar district, people have demand for the construction of latrine, but they report that the quality and lack of water facility

[11] The quality and use are not included in this data. most of the latrine does not have water facility, which is a major cause for not use. In Balangir District, rarely people use latrine

are hindrances in the use of latrine. The lower percentage of ST and SC households have constructed latrine compared to OBC and OC households.

Table 4.5: - Households access to Latin, Electricity, Drinking Water, Bathroom Facility, Type of Fuel used across survey districts, Social and Land holding groups

Variable	Category	Own latrine	Bathroom	Drinking water	Electricity	Type of Fuel used in cooking		
						Firewood	LPG	Other
Survey District	Balangir	63.4	7.5	4.7	79.8	80.8	16.0	3.3
	Baleswar	72.6	30.7	80.7	98.7	13.9	86.1	0.0
	Ganjam	77.7	41.4	14.4	88.4	12.6	87.4	0.0
Social Group	ST	53.3	7.6	23.9	87.0	66.3	32.6	1.1
	SC	65.5	16.3	27.4	87.7	30.6	69.0	0.4
	OBC	77.4	31.7	30.0	89.5	35.5	62.5	2.0
	OC	98.3	79.7	55.6	96.6	6.8	93.2	0.0
Land Holding Group	LL	54.7	10.5	26.1	82.0	33.7	66.3	0.0
	MF	70.5	16.8	20.2	88.1	46.0	53.3	0.8
	SF	79.4	32.0	24.7	92.8	32.0	64.9	3.1
	MDF	92.2	61.0	53.4	100.0	18.2	79.2	2.6
	LF	86.4	75.0	74.4	95.5	15.9	84.1	0.0
All Households		71.30	26.6	30.30	89.10	35.3	63.6	1.10

Source & Note: - Same as Table 4.2

Most of the ST and SC in social and landless and marginal farmers in landholding categories have reported that the lack of land availability is the principal cause of not constructing latrine[12]. They also suggest the community latrine facility near the village pond area with regular cleaning can solve the open deification problem. Households have constructed bathroom out of their own expenditure. Around one-fourth of the survey households have a bathing facility in their house, mostly among wealthy households. Only 7.5 percent of households have a bathing facility within the house among the survey households of Balangir district, whereas it is 30.7 and 41.4 percent among the survey households of Baleswar and Ganjam district. Availability of Bathing facility is positively relating to social hierarchy and land holding group.

[12] In Ganjam district, one of the survey village (Dhanantra), SC households are going to road side for open deification. But recently the BDO and local social worker have cleaned that place and plant some Tulsi (religious tree) in both side of road. But still the SC households are using that place for deification due to lack of latrine facility in their home.

Drinking water is another most essential part of the quality of life. Tap water is the best quality water available in the survey village. In Balangir and Ganjam district some households have their own borewell and rest of the population dependents on community borewells, open wells, and ponds. In Baleswar district, around 80 per cent of households have the tap water supply. The availability of tap water/ borewell increases with the increment in the social hierarchy and landholding categories. Availability of electricity is another variable to indicate the quality of house. Around 89 per cent of households have electricity connection among the survey households. The electricity connection also directly relates to the social hierarchy and land owned categories. Around 80 per cent of Balangir district survey households have electricity connection whereas 98.7 and 88.4 per cent in Baleswar and Ganjam district. Most survey households report that electricity is available 12 to 18 hours per day. The quality of electricity is also horrible in Balangir district[13].

Quality of fuel is another variable to explain the quality of house in rural India. The survey found that 63.6 percent of households have LPG facility in their house. More than 70 percent of LPG connected households are also using firewood as core fuel. Most households from poor and marginalised backgrounds have acquired this LPG connection free of cost through government scheme (Ujwala Yojana). So, LPG connection availability is very high among SC and Landless households than OBC and landless households. On an averagely three cylinders are refilled per year per LPG connected household. The main reasons behind the less use of LPG gas are the high price of LPG and free firewood availability near local areas. After the *Ujjwal Yojana* also there is 35.3 per cent of households not having LPG facility in their house. LPG connection is less in Balangir district, around 16 per cent of households only have LPG facility in their house.

4.3 Different Income Sources

The rural population does have a diverse source of income. Most of the rural households depend on agriculture, directly or indirectly. In recent times, non-farm income opportunities are increasing, but it is not enough to absorb the entire labour force in the rural area. We have categorised them in six groups: agricultural income, income from forest goods, animal husbandry, farm labour, non-farm labour, and regular income[14]. We investigate each source of

[13] The voltage of electricity is very low, it is hardly possible to move fan and lighting the room.

[14] Regular income includes regular wage/salary earner from both private government institute and self-employed in non-farm activity.

income and summing up to find out the yearly income of the households. The following section elucidates each source of activity and income separately.

4.3.1 Agriculture Income

Agriculture is one of the primary sources of income in rural Odisha and India. This agricultural income includes income from crop production as well as rental income from the land tenancy. Around 10 per cent of land-owning households have leased out around 80 per cent of their land. Most of the land-owning households have engaged in direct cultivation of their land. Added to the land-owning households, 44 per cent of landless households have also directly engaged in cultivation through leased in land. Moreover, around 87 percent of survey households are directly engaged in cultivation to earn part of their livelihood.

Percentage of household engage in cultivation is not considerably diverse across different districts, but a lesser proportion of SC households are engaged in cultivation than the other social groups due to low land ownership (See Table 4.6). Across social group, a lesser proportion of SC and OC households have engaged in cultivation than ST and OBC households. Due to the lack of land ownership among the SC households and a higher proportion of OC households have leased out their land. Again, the gross cropped area and the net sown area is also less among the SC households. It is very much paradoxical that the increase in land ownership leads to a decline in the percentage of households engaged in cultivation. Only 61 percent of the large farmers have engaged in cultivation followed by medium, small, and marginal farmers. Around 44 percent of landless households engage in cultivation through leased in land.

The cropping intensity explains the number of time one piece of land can use for cultivation. So, it directly relates to the average irrigation facility and use of land resources. Cropping intensity is highest in Ganjam district than other two survey districts. Across social group, cropping intensity is higher among the OC households as they holding more irrigated land than other groups.

Table 4.6 also explains about the cropping pattern. Paddy is heavily dominating in agricultural production, followed by cotton, cereals and vegetables. Around 74 per cent of land use to produce paddy, whereas 11.8, 8.0 and 6.3 per cent of land are used to produce cotton, cereals, and vegetables. Across survey districts, 87 per cent of land use in the production of paddy in Baleswar district whereas 60 per cent in Balangir and 73 per cent in Ganjam district. More

percent of land use in Cotton production among survey households of Balangir district. There is wide variation in cropping pattern across social groups due to their variation in land quality ownership. More percent of OC households engage in paddy production, whereas ST cultivator dominates cotton production. The OC households own more irrigated land that is more suitable for paddy production. The ST households own more unirrigated *(ant/Mamuli*) land, suitable for producing either cereals or cotton. The land use pattern is similar among the land owned categories due to land tenancy from large farmers to landless, marginal and small farmer groups.

Table 4.6: - Cropping Pattern Among Survey Households across Survey District, Social Group and Land Holding Group

Variable	Category	Percentage of HH engage in cul.	Net sown area (average)	Gross cropped Area (average)	Cropping intensity	Percentage of areas under Paddy production	Percentage of area under cotton production	Percentage of area under cereal & oilseed production	Percentage of area under vegetable production
District	Balangir	80.3	2.86	3.13	106.90	60.3 (1.8)	28.7 (0.9)	3.7 (0.09)	7.3 (0.28)
	Baleswar	81.2	2.00	2.1	103.0	87.4 (1.9)	1.3 (0.1)	9.4 (0.08)	1.9 (0.08)
	Ganjam	74.0	2.17	3.1	134.8	72.8 (2.1)	5.8 (0.2)	11.1 (0.38)	10.3 (0.48)
Social Group	ST	88.1	3.18	3.3	101.4	66.5 (2.2)	24.2 (0.9)	4.1 (0.06)	5.3 (0.21)
	SC	72.6	1.96	2.4	116.6	75.7 (1.8)	6.9 (0.2)	10.6 (0.21)	6.8 (0.27)
	OBC	84.3	2.37	2.77	115.66	73.3 (1.9)	12.7 (0.4)	8.5 (0.21)	5.5 (0.24)
	OC	64.4	2.22	3.32	122.90	83.2 (2.5)	4.2 (0.2)	1.6 (0.08)	11.0 (0.59)
Land holding Group	LL	44.8	1.74	2.06	115.67	77.1 (1.6)	3.8 (0.06)	13.4 (0.23)	5.6 (0.2)
	MF	94.7	1.70	2.04	114.55	74.3 (1.5)	11.4 (0.25)	9.0 (0.2)	5.3 (0.2)
	SF	85.6	3.32	3.98	115.09	69.8 (2.6)	16.8 (0.6)	3.0 (0.2)	10.4 (0.5)
	MDF	84.1	4.58	5.29	108.50	71.1 (3.4)	20.2 (1.3)	2.3 (0.14)	6.4 (0.5)
	LF	61.1	8.63	9.82	109.75	79.3 (7.3)	12.2 (1.7)	0 (0.0)	8.5 (0.8)
All Households		78.5	2.34	2.76	114.26	73.8 (1.9)	11.8 (0.4)	8.0 (0.2)	6.3 (0.3)

Source & Note[1]: - Same as Table 4.2; Note[2]- The value inside the parenthesis () is the average area of land.

The land use pattern explains their availability of resources, but agriculture's income can be calculated from production, price, and investment information. We have collected information relating to production, selling price and cost on labour and capital. Average profit per households and per acre on paddy production is presented Appendix-4, Table 1. Per acre production of paddy was 1037 kg in Balangir whereas it is 2246 and 2140 kg in Baleswar and Ganjam districts respectively. There is variation in per acre production of paddy across social

group also. This difference in per acre production of paddy across survey district and social group is mostly due to the difference in irrigation facility and capital investment on cultivation. The selling price of paddy varies between 11 to 14 rupees, and this variation is mostly due to the cultivator's socioeconomic status. Investment on paddy cultivation diverges with the production across survey district and social group. Average profit per households and acres on paddy production is lowest in Balangir followed by Ganjam and Baleswar districts. Across social group, average profit per households and acre increases with the increase in social status, due to the variation in output and price level. There is also a wide variation in profit rate across land owned categories. The profit rate on paddy production is lowest among the large farmers followed by marginal, landless, small and medium farmers[15].

The second most cultivable crop is cotton among the survey households. Around 20.4 percent of survey households have used 11.8 per cent of gross crop area to cultivate cotton. Per acre production of cotton is similar across cultivating households, except some outlier. However, the price level varies from 36 to 52 rupees per kg of cotton (See Appendix-4, Table 2). The average selling price of cotton is 4360 rupees per quintal, whereas the minimum support price of cotton is 5150 to 5450 in 2018-19[16]. Across cotton producer, the selling price of cotton is less than the minimum support price of cotton. The selling price of cotton increases with the increase in landholding size. The marginal and small farmers are interlocked under the input supplier (input taken on credit basis), selling cotton to their respective input suppliers at a lesser price than the market price. The net income from cotton production varies according to the price variation. The cotton production is more profitable in Balangir district than Baleswar and Ganjam district due to high yield. The per acre profit rate in cotton production increases with increasing landholding groups, explaining through price variation.

Out of total survey households, around 15.4 per cent of the households have engaged in vegetable cultivation. They have used around 8 per cent of the gross crop areas for vegetable cultivation (see Appendix 4, Table 3). Profit from vegetable cultivation is very high as compare to paddy and cotton production. However, vegetables' cultivation required regular labour-power, irrigation facilities, and suitable land, creating obstacles to expanding the cultivation area. Rest 6.3 per cent of gross crop areas use in the production of cereal and oilseeds (see

[15] Comparatively a higher number of large farmers are coming from Balangir district. They holding large plot of land without any irrigation facility which make them worse off.

[16] MSP of cotton in 2017-18 was 4020 to 4320 rupees per quintal. https://www.farmer.gov.in/mspstatements.aspx

Appendix 4 Table 4). The profit rate on cereals and oilseeds is lower than other crops, but it can grow in low-quality land without proper irrigation facilities. So, only 14 percent of survey households have used their lowest quality land to produce cereals and oilseeds.

4.3.2 Forest Income

Rural households also have income from common resources or forest resources. Survey village of Ganjam and Baleswar districts are far from the forest location, so they do not have any income from forest resources. Nearly one-third survey households of Balangir district engage in collecting, processing and selling at least one forest product. We have found five forest product categories collected in survey village of Balangir district; these are Mahua, Chahar, Tendu leap, wood, Broomstick. The percentage of survey households of Balangir district engage in the collection of forest product is presented in Table 4.7. A lesser percentage of ST and SC households have engaged in collecting forest product across social group than the OBC households. It may be due to the high rate of seasonal migration among the SC and ST household in the post-agricultural or forest product collection season. Across land holding group, it is the marginal and small farmers highly depend on forest product. The forest product collection is also high among the non-migrant households than the migrant household due to their seasonal migration in forest product collection season. Around 30 per cent of survey households of Balangir district have engaged in the collection of tendu leap, but less than 10 per cent of households are engaged in the collection of other forest products.

The average price, total collection, a number of days spent, and average income from forest products is presented in Appendix 4, Table 5. The Tendu leaves collection is a foremost source of income among the forest product. Its price also fixed at 100 rupees per bundle by the government agency. The government has decided a minimum support price for Mahua and Chahar. However, none of the survey households have access to government purchasing centre and they sell Mahua and Chahar at 20 per cent lesser price than the MSP in private stores. Broomstick's price is mostly due to their labour time spent on weaving; it ranges from 20 to 25 rupees. Per household earn Averagely 4547 rupees from the collection of forest product. The variation on income from forest product is small across social and land holding group, the small variation can also explain through the availability of labour force in the households.

Table 4.7: Percentage of HH engaged in the collection of different forest product across social group and land holding group (in Balangir district)

Variable	Category	Forest Product	Mahua	Chahar	Tendu leap	Wood	Broomstick
Social Group	ST	21.9 (16)	2.7 (2)	1.4 (1)	21.9 (16)	4.1 (3)	4.1 (3)
	SC	30.8 (16)	17.7 (4)	3.8 (2)	25.0 (13)	0 (0)	7.7 (4)
	OBC	42.5 (37)	12.6 (11)	6.9 (6)	39.1 (34)	4.6 (4)	8.0 (7)
Land Holding Group	LL	29.4 (10)	0 (0)	0 (0)	26.5 (9)	5.9 (2)	11.8 (4)
	MF	36.5 (42)	5.2 (6)	3.5 (4)	37.4 (43)	3.5 (4)	7.8 (9)
	SF	33.3 (12)	16.7 (6)	5.6 (2)	30.6 (11)	2.8 (1)	2.8 (1)
	MDF	22.7 (5)	22.7 (5)	13.6 (3)	0 (0)	0 (0)	0 (0)
Migrant HH	Yes	30.9 (38)	3.3 (4)	2.4 (3)	30.1 (37)	4.1 (5)	10.6 (13)
	No	34.4 (31)	14.4 (13)	6.7 (6)	28.9 (26)	2.2 (2)	1.1 (1)
All Survey HH		32.4 (69)	8.0 (17)	4.2 (9)	29.6 (63)	3.3 (7)	6.6 (14)

Source & Note[1]: - Same as Table 4.2; Note[2]: - The value inside the parenthesis () explains the number of HH.

4.3.3 Livestock

Agriculture includes animal husbandry work as an allied activity. The survey has query about the income from animal husbandry and the current value of the animal. Table 4.8 presents the percentage of household ownership of livestock and last one-year's income and the current value of livestock. Around 43.9 percent of survey households own at least one type of livestock. Across survey districts, the highest proportion of Baleswar district survey households own at least one type of livestock followed by Balangir; and less than 20 percent of survey households of Ganjam district own at least one type of livestock. In Baleswar district, 58.7 percent household own cow/ buffalo followed by bullock, goat/sheep and poultry. However, in Balangir district, a higher proportion of the household's own goat/sheep and poultry than cow/buffalo.

Across social group, around 50 percentage ST, SC and OBC household's own livestock and only 23.7 percentage among OC households. The percentage of households own different animal is not much diverse across social group except OC households. The percentage of households own at least one animal increases with the increase in land holding size, except large farmers. This higher proportion of livestock among the landowning groups is due to their bullock ownership for the cultivation purpose. The livestock gives on an average 7232 rupees per year and the current value of these animal is near to 25000 rupees[17]. This flow income is

[17] Flow of income from bullock is not calculated only the current value of bullock included in current value of livestock column.

mostly coming from the sale of milk, meat product. The average household income from animal husbandry decreases with an increase in landowning size. The current livestock value increases with an increase in landowning size; the lower landholding groups own more milk and meat-related animals and more proportion of medium and large farmers own bullocks for cultivation purpose.

Table 4.8: - Percentage of HH own livestock and income from livestock across survey district, social and land holding groups

Variable	Category	Percentage of HH own Livestock	Cow/ Buffalo	Bullock	Goat/ Sheep	Hen/ Duck	Average income in last year	Current value of livestock
District	Balangir	46.9 (100)	9.9 (21)	30.0 (64)	21.6 (46)	21.1 (45)	5944	28230
	Baleswar	65.6 (146)	58.7 (131)	34.5 (77)	18.4 (41)	13.9 (31)	7058	19799
	Ganjam	18.6 (40)	14.4 (31)	10.2 (22)	2.8 (6)	0.0 (0)	11088	31850
Social Group	ST	50.0 (46)	18.5 (17)	38.0 (35)	16.3 (15)	12.0 (11)	5907	27517
	SC	40.9 (103)	30.6 (77)	20.6 (52)	15.9 (40)	12.7 (37)	8437	20528
	OBC	49.6 (123)	30.2 (75)	29.0 (72)	14.9 (37)	11.3 (28)	7050	27576
	OC	23.7 (14)	23.7 (14)	6.8 (4)	1.7 (1)	0.0 (0)	4321	15393
Land Holding Group	LL	37.2 (64)	28.5 (49)	20.3 (35)	10.5 (18)	9.9 (17)	8090	19388
	MF	46.3 (121)	27.2 (71)	25.0 (65)	17.6 (46)	16.1 (42)	7292	23549
	SF	47.4 (46)	29.9 (29)	30.9 (30)	14.4 (14)	13.4 (13)	7346	28337
	MDF	49.4(38)	27.3 (21)	33.8 (26)	13.0 (10)	3.9 (3)	6264	29766
	LF	38.6 (17)	29.5 (13)	15.9 (7)	11.4 (5)	2.3 (1)	5429	27221
All Households		43.9 (286)	28.1 (183)	25.0 (163)	14.3 (93)	11.7 (76)	7232	24432

Source & Note[1]: - Same as Table 4.2; Note[2]: - The value inside the parenthesis () explains the number of HH.

4.3.4 Labour force patriation

Labour force participation rate explains that the proportion of the working-age populations are interested in working at the prevailing wage rate. In our survey, the labour force participation rate is around 60 per cent; among male it is 85 per cent and 30 per cent among female (see Table 4.9). Across the socioeconomic groups, male labour force participation rate is not diverse, but it is higher among the socioeconomically marginal groups. The labour force participation rate of male is 100 per cent up to 9 years of education, and after that, it has declined with an increase in years of education. It is similar across social group (See Appendix 4 Graph 1).

The female labour force participation rate is 30 per cent among survey households and diverse across socioeconomic variables. Across social groups, the ST female labour force participation is 37.6 per cent and 32.2, 28.3 and 10.9 per cent among the SC, OBC and OC households respectively. Across land owned categories, the female labour force participation rate is declining with the increase in land size up to MDF, again it increases among large farmer groups. Across years of education, female labour force participation rate has a U shape curve. The female labour force participation rate decreases up to 10 years of education, and after that, it increases with an increase in years of education (see Appendix 4, Graph 2).

Table 4.9: - Labour force, workforce and unemployment rate over male and female individuals across social groups, survey districts and land holding groups

Variable	Category	Labour force participation		Workforce participation rate		Unemployment rate	
		Male	Female	Male	Female	Male	Female
Social Group	ST	83.2 (129)	37.6 (56)	82.6 (128)	33.6 (50)	0.6 (1)	4.0 (6)
	SC	85.8 (435)	32.2 (137)	68.6 (348)	28.5 (121)	17.2 (87)	3.8 (16)
	OBC	87.7 (408)	28.3 (121)	75.1 (349)	22.5 (96)	12.7 (59)	5.9 (25)
	OC	81.5 (88)	10.9 (10)	60.2 (65)	5.4 (5)	21.3 (23)	5.4 (5)
District	Balangir	86.1 (308)	39.7 (146)	81.3 (291)	34.0 (125)	4.7 (17)	5.7 (21)
	Baleswar	84.0 (372)	25.8 (95)	82.2 (364)	21.2 (78)	1.8 (8)	4.6 (17)
	Ganjam	87.5 (308)	23.2 (83)	54.1 (235)	19.3 (69)	33.4 (145)	3.9 (14)
Land Holding Group	LL	86.9 (286)	32.1 (89)	70.2 (231)	27.8 (77)	16.7 (55)	4.3 (12)
	MF	86.9 (531)	32.7 (180)	72.8 (445)	28.7 (158)	14.1 (86)	4.0 (22)
	SF	87.6 (142)	27.0 (43)	77.2 (125)	19.5 (31)	10.5 (17)	7.5 (12)
	MDF	76.8 (73)	9.3 (7)	66.3 (63)	5.3 (4)	10.5 (10)	4.0 (3)
	LF	73.7 (28)	16.1 (5)	68.4 (26)	6.5 (2)	5.3 (2)	9.7 (3)
Working-age population		85.8 (1060)	29.6 (324)	72.1 (890)	24.9 (272)	13.8 (170)	4.8 (52)
All Working-age population		59.4 (1384)		49.9 (1162)		9.5 (222)	

Source & Note[1]: - Same as Table 4.2; Note[2]: - The value inside the parenthesis () explains the number of individuals.

The workforce participation rate explains the proportion of working age population employed at the prevailing wage rate. The workforce participation rate of male and female individuals has a similar pattern as the labour force participation rate, respectively. However, the workforce participation rate of male and female individuals is more diverse across socioeconomic indicators than their respective diversity in the labour force participation rate. It is due to the difference in the unemployment rate. The unemployment rate explains the proportion of

working age populations seeking employment in the prevailing wage rate but did not get employment. We have found 9.5 per cent of unemployment rate in our survey area. The unemployment rate of male is highest among OC, followed by SC, OBC and ST categories. The unemployment rate declined with the increase in land holding group, as land always give employment opportunity in rural India. However, the unemployment rate among female is 4.8 percent, and it is similar across socioeconomic indicator.

4.3.4.1 Farm and non-farm Labour source of Income

A larger share of rural population work as a labourer in rural India and Odisha. There are two types of labour available in rural Odisha, as farm and non-farm labour. Table 4. 10 presents the percentage of households engage in labour work and their average income. Across survey households, around 66.2 per cent of households are working on an average for 82 days as farm labour and earn 13340 rupees per household in one agricultural season (one year). Around 48 per cent of households are working on an average for 77 days as non-farm labour and earn 18719 rupees per households in a year. Across survey districts, the highest percentage of survey households of Balangir district depend on the farm and non-farm labour, followed by Ganjam and Baleswar districts. Moreover, the average days of farm labour employment are higher among survey households of Balangir than Ganjam and Baleswar districts. However, the average per household's non-farm working days is lowest among the survey households of Balangir than other two survey districts. The average labour income among the survey households of Balangir district is lower than the Baleswar and Ganjam districts, due to the lower wage rate on the farm and non-farm work in Balangir district.

Across social group, close to 80 percent of SC/ST households and 60 percent of OBC households are engaged in labour work, whereas this is only 10 percent among OC households. The same pattern of distribution is found in average days of labour employment across social categories. The percentage of households depend on labour work, and average days of labour work are negatively associated with landholding. The wage rate differences across gender over survey district, social group and land holding group is presented in Appendix 4, Table 6. Across survey households, farm wage rate of male worker is 10 percent higher than their female counterpart and it is 5 percent in case of the non-farm wage rate. This difference between male and female wage rates are statistically significant. Within the male and female wage rate, the farm and non-farm wage rate of Balangir are lower than Baleswar and Ganjam districts in the survey year (2017-18).

Table 4.10: - Percentage of HH engage in Labour work, Average days of work and average income from labour work across survey district, social group and land holding group

Variable	Category	Percent of HH engage in Farm Labour Work	Average per HH Farm Working Days	Average Farm Labour Income per year	Percent of HH engage in Non-Farm Labour Work	Average per HH Non-Farm Working days	Average Non-Farm Labour Income per year	Percent of HH engage in total Labour Work	Average Labour Income per year
District	Balangir	74.2 (158)	85.9	9835	49.8 (106)	72.8	12555	76.1 (162)	17807
	Baleswar	56.5 (126)	78.5	17645	45.7 (102)	79.7	22306	57.4 (128)	35145
	Ganjam	68.4 (147)	79.3	13417	47.9 (103)	78.9	21512	68.8 (148)	28297
Social Group	ST	80.4 (74)	85.8	11858	58.7 (54)	72.1	15714	81.5 (75)	23014
	SC	79.4 (200)	87.2	15515	61.1 (154)	83.7	21466	79.8 (201)	31884
	OBC	61.3 (152)	72.6	11311	39.9 (99)	71.0	16105	62.9 (156)	21241
	OC	8.5 (5)	60.4	9966	6.8 (4)	41.3	18250	10.2 (6)	20472
All Households		66.2 (431)	81.5	9445	47.8 (311)	77.1	9427	67.3 (438)	26418

Source & Note[1]: - Same as Table 4.2; Note[2]: - The value inside parenthesis () explain number of HH.

4.3.4.2 Regular Source of income

The regular wage/salary and self-employed in non-farm work is another source of earning in rural Odisha. The regular salary earner includes salary on government and private service. The private service includes driver, security guard in the local town, marketing agent, workers in a local shop. Self-employed in non-farm work includes shop owner, artisan worker. The survey found that around 24 per cent of households have at least one regular earning source with an average income of 141623 rupees per year (see Table 4.11). Across survey district, 37.7 per cent survey households of Baleswar district have a regular income source, followed by Ganjam district with 25.1 per cent and below 10 per cent in Balangir district. The Baleswar district survey households also have the highest percentage of salary earning from private, government and self-employed activities. The distribution of regular earning across social group and land holding group is highly skewed towards upper caste (OC) and large and medium farmer group. The same pattern is also found in the regular earning and average yearly income at the sub-group level.

Table 4. 11: - Percentage of households having regular source of earning and average yearly income across social groups, land holding groups, survey districts

Variable	Category	Regular Earning	Salary earning (Private)	Salary earning (Govt)	Non-farm Self-employed	Average Regular Income (yearly)
District	Balangir	8.9 (19)	6.1 (13)	2.8 (6)	0.5 (1)	87095
	Baleswar	37.7 (84)	21.1 (47)	8.1 (18)	12.1 (27)	140000
	Ganjam	25.1 (54)	11.2 (24)	4.7 (10)	9.8 (21)	163333
Social Group	ST	8.7 (8)	6.5 (6)	2.2 (2)	0.0 (0)	63300
	SC	17.9 (45)	11.5 (29)	3.2 (8)	4.0 (10)	112533
	OBC	26.2 (65)	14.5 (36)	3.6 (9)	10.5 (26)	124837
	OC	66.1 (39)	22.0 (13)	25.4 (15)	22.0 (13)	219231
Land Holding Group	LL	22.1 (38)	14.0 (24)	2.3 (4)	6.4 (11)	86589
	MF	17.6 (46)	10.3 (27)	2.7 (7)	5.4 (14)	113530
	SF	19.6 (19)	12.4 (12)	4.1 (4)	5.2 (5)	121894
	MDF	39.0 (30)	15.6 (12)	11.7 (9)	14.3 (11)	183400
	LF	54.5 (24)	20.5 (9)	22.7 (10)	18.2 (8)	246000
All Households		24.1 (157)	12.9 (84)	5.2 (34)	7.5 (49)	141623

Source & Note[1]: - Same as Table 4.2; Note[2]: - The value inside the parenthesis () explains the number of households.

4.3.5 Total Flow of Income from different Income activities

The Average yearly income in the place of origin from different sources activities are summaries in Table 4.12. Per households earn 88486 rupees per year from different activities. Income is diverse across socioeconomic indicator of the survey households. Across survey districts, per year income of survey households of Balangir district is nearly half of per year income of survey households of Ganjam and Baleswar districts. This large difference in income across the region is due to the difference in access to regular earning income. The household's landholding and social status are directly relating to per year income of the survey households. Among different income sources, regular earning contributes 38 per cent of total average income followed by Agriculture; contribute 36 per cent. Average income from farm and non-farm labour contributes nearly 10.7 per cent to average total income, whereas the income from forest and livestock is just 4 per cent. The regular income source is nearly 50 per cent of yearly income among survey households of Baleswar district, and 40 per cent in Ganjam and 14.5 per cent in Balangir districts.

Further, analysis of income and share of income across social and landholding categories for each district, we found that the average origin income of each social and landholding category of Balangir district is lower than their respective category of Baleswar and Ganjam districts (see Appendix 4, Table 8 & 9). The share of income from agricultural source dominates in total income followed by labour income in each social and landholding category of Balangir district, whereas regular income share dominates in each social and landholding category of Baleswar and Ganjam districts. It clearly explains the difference in the regular source of income across survey districts. The average income of Balangir district is lower than other survey districts, and also a significant share of income coming from uncertain (unstable/high risk) sources like agriculture (in the rain-fed reason).

Table 4. 12: - Average origin source income and their respective share of each source in total income across survey district, social group and land holding group

Variable	Category	Agricultural	Farm Labour	Non-farm Labour	Regular earning	Forest & Livestock Income	Total Income
District	Balangir	26926 (50.1)	8102 (15.1)	6645 (12.4)	7769 (14.5)	4264 (7.9)	53705
	Baleswar	30325 (27.9)	10438 (9.6)	10925 (10.0)	52413 (48.2)	4630 (4.3)	108730
	Ganjam	38486 (37.8)	9746 (9.6)	10629 (10.4)	41023 (40.2)	2063 (2.0)	101947
Social Group	ST	27690 (48.6)	10248 (18.0)	9735 (17.1)	5504 (9.7)	3770 (6.6)	56947
	SC	22989 (31.0)	13306 (17.9)	14077 (19.0)	20095 (27.1)	3730 (5.0)	74198
	OBC	36612 (42.1)	7269 (8.4)	6535 (7.5)	32429 (37.3)	4181 (4.8)	87026
	OC	56808 (27.7)	845 (0.4)	1237 (0.6)	144915 (70.7)	1025 (0.5)	204830
Land Holding Group	LL	11693 (18.8)	13988 (22.5)	14163 (22.8)	19130 (30.8)	3237 (5.2)	62211
	MF	22462 (33.1)	11322 (16.7)	9985 (14.7)	20009 (29.5)	3993 (5.9)	67773
	SF	42417 (51.0)	5903 (7.1)	7605 (9.1)	23134 (27.8)	4159 (5.0)	83219
	MDF	70035 (46.6)	1512 (1.0)	3854 (2.6)	71454 (47.5)	3540 (2.3)	150395
	LF	77072 (35.5)	2239 (1.0)	1366 (0.6)	134182 (61.7)	2478 (1.1)	217336
All Households		31908 (36.1)	9445 (10.7)	9427 (10.7)	34044 (38.5)	3662 (4.1)	88486

Source & Note[1]: - Same as Table 4.2; Note[2]: - The value inside the parenthesis () explains the percentage share in total average income.

Across social group, the regular income source is 70.7, 37.3, 27.1 and 9.7 per cent among the survey households of OC, OBC, SC and ST, respectively. Across land owned categories, the

percentage share of regular income source in yearly income increases with an increase in landholding. The agricultural income is nearly 50 per cent of yearly income among survey households of Balangir district, and 28 per cent in Baleswar and 38 per cent in Ganjam districts. Across social groups, agricultural income is nearly 50 per cent of the average yearly income of ST households followed by OBC, SC and OC households. Across Land owned categories, percentage share of agricultural income in yearly income increases from 18.8 per cent among landless households to 51 per cent among small farmer groups. However, it declines to 35.5 per cent for large farmers group. The income from labour activities is the foremost income source for SC, ST among social and landless and marginal farmer among land owned categories. Across survey household, the regular and agriculture income is the primary income source for the medium and large farmer groups, whereas the landless and marginal farmer groups earn their significant share of income from labour activity.

4.4 Ration Card-Holding

Other than the own income government is also providing many subsidies through variety of scheme to eradicate poverty and smoothing the consumption expenditure of poor households. the government has identified poor households based on socioeconomic criteria and categorised them into three groups: extremely poor, poor, and above poverty line households[18]. The government provides 35 kg of rice per Antordaya cardholder, and poor households get 5 kg rice or wheat per person per month on one rupee price per kg[19]. Other than the PDS government also provide different benefits to the ration cardholders on a seasonal basis. These ration cardholders are also priority households to get included in government housing scheme (Pradhan Mantri Gram Awas Yojana (PMGAY), Biju Pakka Ghara Yojana (BPGY)). These subsidies or transfer of income schemes are also part of the livelihood of poor households[20]. Table 4.13 presents the percentage of access to a ration card-holding over survey districts, social groups and land holding groups. In Balangir district, 100 per cent of survey households have a ration card, but 98 and 93 per cent among survey households of Baleswar and Ganjam districts[21]. Across social categories, all the ST households have a ration card, followed by SC,

[18] Extreme poor households come under Antordaya Category, it includes female headed households, differently able headed households, households without any working age person. Poor households' categories not only on the basis of income but also it includes caste, physical assets, land holding. Those are excluded from theses above two categories are coming under above poverty line group.

[19] In our survey we have also found proper distribution of PDS among most household in all the survey village.

[20] There are so many questions on the sustainability of these government subsidies livelihood scheme.

[21] In 2015 Government of Odisha has accept to implemented NFSA and have been providing PDS to 82.17 percent of rural population and 55.77 percent of urban population of Odisha.

OBC and OC households. Amount of landholding is oppositely relating to access a ration card among survey households.

Table-4.13: Ration Card category across Social Group, Land Holding Group, Survey District in three survey districts

Variable	Category	Antordaya	Ration Card	No Card
Survey District	Balangir	4.3	95.7	0.0
	Baleswar	14.3	84.1	1.6
	Ganjam	4.8	88.3	6.9
Social Group	ST	4.3	95.7	0.0
	SC	14.3	84.1	1.6
	OBC	4.8	88.3	6.9
	OC	3.4	67.8	28.8
Land Holding Group	LL	13.4	86.6	0.0
	MF	9.2	86.2	4.6
	SF	4.1	88.7	7.2
	MDF	3.9	83.1	13.0
	LF	0.0	77.3	22.7
All HH		8.3	85.7	6.0

Source & Note: - Same as Table 4.2

4.5 Consumption Pattern

After discussing income levels among the survey households, this section explains the survey households' consumption expenditure. Table 4.14 presents average MPCE across socioeconomic indicators of the survey households. The survey includes the consumption expenditure, which is absolutes required for survival in the current condition. So, this consumption expenditure should not be taken as a proxy for income; instead, we analyse it as the minimum amount of expenditure required to survive in the current social condition. Food expenditure includes expenditure on grocery, vegetable and meat, alcohol, smoke and tamakhu items. Non-food expenditure incorporates footwear, cloth, haircutting, electric bill, transportation, mobile bill, house and vehicle maintenance expenditure. It includes health and festival expenditure. We have not included educational spending as there is a debate that educational spending is an investment for a better opportunity.

MPCE is highest among the survey households of Baleswar district followed by Ganjam and Balangir district. Across social categories, MPCE increases with an increase in the social status

of the household. MPCE of OC households is nearly double than the ST households. Across land owned categories, MPCE increases with increase in landholding. MPCE of the large farmer is nearly double than the landless and marginal farmer. Food expenditure incorporates 61.5 percent of average MPCE, whereas the non-food, health and festival spending contribute 28.6, 3.3 and 6.6 percent of MPCE. The share of food and non-food expenditure in MPCE is similar across the socioeconomic indicators. The MPCE on food and non-food are the minimum requirement for the survival spending so, each item share in MPCE is more or less similar across the socioeconomic indicators. However, the amount spent on food and non-food items increases with an increase in the socioeconomic status.

Table 4.14: Average MPCE and respective share spend on food and other sub expenditure across survey districts, social groups and land holding groups

Variable	Category	Food MPCE	Non-Food MPCE	Health MPCE	Festival MPCE	MPCE
District	Balangir	307 (55.7)	157 (28.5)	31 (5.6)	57 (10.2)	552
	Baleswar	504 (64.1)	221 (28.1)	18 (2.3)	43 (5.5)	785
	Ganjam	481 (62.9)	223 (29.1)	22 (2.9)	39 (5.1)	765
Social Group	ST	353 (59.6)	161 (27.2)	24 (4.1)	54 (9.1)	592
	SC	391 (61.9)	178 (28.3)	21 (3.3)	41 (6.4)	631
	OBC	441 (61.0)	210 (29.0)	24 (3.4)	48 (6.6)	723
	OC	691 (63.4)	319 (29.2)	30 (2.7)	51 (4.7)	1090
Land Holding Group	LL	404 (62.5)	180 (27.8)	21 (3.2)	41 (6.4)	647
	MF	377 (60.2)	181 (29)	23 (3.6)	45 (7.2)	647
	SF	410 (60.3)	196 (28.8)	25 (3.7)	48 (7.1)	778
	MDF	556 (62.6)	253 (28.5)	28 (3.1)	51 (5.7)	936
	LF	693 (63.4)	314 (28.7)	29 (2.7)	57 (5.2)	1219
All Households		432 (61.5)	201 (28.6)	24 (3.3)	46 (6.6)	702

Source & Note[1]: - Same as Table 4.2; Note[2]: - The value inside the parenthesis () explains the percentage share in MPCE.

4.6 Conclusion

This chapter explains the socioeconomic condition of the survey households. One-fourth of the survey households are landless, and half are marginal farmers. Only 10 per cent of the survey households have more than 5 acres of land. The average landholding is 2.5 acres among the survey households. At least 50 per cent of land have one-time irrigation (including tank water). Baleswar district has 80 per cent of land irrigated, whereas only 23 per cent of Balangir district. Around 80 percent of the survey households directly engage in cultivation. Out of total gross

cropped area, three fourth land use in paddy cultivation, another 12 per cent in cotton cultivation and rest 13 per cent in vegetable, cereal and oilseed cultivation. The average income of cultivating households from agriculture is around 32 thousand rupees per year, which is around 32 per cent of total income at the place of origin. Forest product is only available in the survey village of Balangir district. Around 44 per cent of the survey households have livestock in their house. The regular earning from livestock is around 7 thousand rupees among the survey households.

The non-farm and labour activities are other income sources in the rural area. The labour force participation rate is 60 per cent, and the workforce participation is 50 per cent, and the rest 10 per cent are unemployed. Around 66 per cent of households have received income from farm labour and 48 percent from non-farm labour. The survey households earn averagely 13340 rupees from farm labour and 26481 rupees from non-farm labour work. The labour activities contribute averagely 21 percent of total income at the place of origin. A quarter of households have earned averagely 1.41 lakh rupees per year, from a regular income source. The regular earning contributes the highest share (38.5 per cent) of total income at the place of origin. The average yearly income from origin sources is 88486 rupees, but it is very skewed distributed.

Housing condition is another variable to explain the economic situation of the households. It suggests that four rooms available per households, and 70 per cent of households have a concert wall with RCC roof (*Pakka* House). Accessibility to sanitation suggests that 71 per cent of households have constructed latrine, but only one-fourth households have a bathing facility in their house premises. Only 30 per cent of households have access to tap drinking water. The tap drinking water facility is rarely available in Balangir, but it is found among most of the households of Baleswar district. The electricity connection is widely available across survey households.

The average origin source of income and living condition is lower among the survey households of Balangir district than the survey households of Baleswar and Ganjam districts. The significant share of income of Balangir district is also coming from an uncertain source like agriculture in the rain-fed reason. The average income and living conditions are lower among each social and landholding category of Balangir district than the respective social and landholding categories of other survey districts. The MPCE is the minimum required consumption expenditure; it is not much diverse across survey district. It clearly explains the degree as well as nature of distress in Balangir district than other survey districts. This distress among survey households of Balangir district is one of the causes for their lack of bargaining

power in the choice of migration. This degree and nature of distress reflect their pattern of migration also (see in Chapter 6).

Chapter V

Migration and Livelihood Strategy

5.1 Introduction

This chapter explains the impact of migration on different livelihood capital. The existing research on migration and livelihood elucidated that the migration has improved the livelihood condition of migrant households (Haan De, 2002) (Deshingkar, Kumar, Chobey, & Kumar, 2006). In contrast to livelihood improvement argument, Breman has concluded that migration is crucial to sustaining the livelihood in the current situation (Breman J. , 2004);(2009). This study has verified the impact of migration on the livelihood of migrant households. It has investigated each capital of livelihood separately to understand the impact of migration.

The livelihood approach has started to analyse forest resources' impact on sustainable livelihood (Chambers & Conway, 1992). The focal point of this chapter is to discuss the impact of migration on sustainable livelihoods of migrant households. Chambers defines that "*a livelihood comprises of people, their capabilities and their means of living, including food, income and assets. A livelihood is socially sustainable, which can cope with and recover from stress and shocks, and provide future generations*" (Chambers & Conway, 1992). (Scooner, 1998) This paper outlines five key indicators to analysis the sustainable livelihoods framework. The framework shows how, the sustainable livelihoods are achieved through access to a variety of livelihood capitals (natural, economic, human and social capitals), which are part in the recognition of different livelihood strategies.

The interlinkage of migration and livelihood has extended the Chambers & Conway approach of changes in livelihood. Haan De has argued that labour migration, between and within urban and rural areas, has to be seen as a crucial part in the livelihoods of many households in developing countries, poor and rich (most specifically poor) (Haan De, 1999). The migration has several forms, and their significance for different socioeconomic groups are essential parts of peoples' and households' livelihoods, rather than as simple survival strategies in times of hardship (Haan De 2002)[a]. Field study from rural Bihar states that the migration and remittances have contributed significantly to the particular socioeconomic group. The changes among the migrant groups are relatively slow but not stagnate. The large numbers of small landholdings and large proletariat find work locally or elsewhere, which improve their economic status slowly (Haan De 2002)[b].

Deshingkar has interlinked the pattern of migration with the use of remittance in India. (Deshingkar & Start, 2003) They found that people from poor areas see migration as a positive pathway. Indeed, one person's surviving strategy is often another person's accumulation strategy. They find that migration of sugarcane cutters, earth-workers and agricultural labourers from remote and poor villages of AP and MP have improved their standard of living significantly and are investing their savings in agriculture and educating their children. On the other hand, some migrants from the well-to-do canal-irrigated coastal areas migrate for coping purposes.

In further studies in rural areas of AP and MP, she relates the migration with poverty elevation. She explained that migration is greater among deprived groups living in remote rural areas. It plays a vital role in managing risk, improving living standards and household wellbeing (Deshingkar, Khandelwal, & Farrrington, 2008). However, it is impossible to say that the poor have developed to non-poor due to the migration, because of the difficulties of computing poverty and manifold deprivations. "*The overall impact of migration in terms of being able to repay debts faster, being able to eat more regularly, being able to spend on education, health, agriculture and housing and being able to borrow large sums when needed and has raised the social and economic status of migrant households"* (Deshingkar 2010) (2017). The internal labour migration facilitates shock-coping in rural economies (Gro¨ger & Zylberberg, 2016); (Jha, Gupta, Chattopadhyay, & Sreeraman, 2018). Further studies on climate change and migration in India suggest that current reactions do not essentially qualify as climate change adaptation strategies. While specific approaches increase household wellbeing in the short run, there is a fairly lower adaptive ability to deal with climatic risks in the future (Singha, Rahmana, Srinivas, & Bazaz, 2018).

In further studies on the livelihood approach of migration In Odisha, (Mitra & Pradhan, 2016) this paper found that remittances comprise almost 50 per cent of the total household income. Thus, migration is an effective tactic for survival. A Case study in the village of Odisha examines the impact of drought adversities on the rural population and analyses the significance of temporary migration as a surviving and adaptation strategy (Julich, 2011) (SWiFT, 2016).

In contrast to the positive outcome of migration, the initial condition of the migrant is a crucial factor in understanding the impact (Waddington, 2003). The seasonal migration opted for employment and income generation is the primary livelihood strategy adopted by the women

agricultural labourers (Nandi & Sarkar, 2020). The enquiry of brick kiln migrants concludes that the debt trap and lack of survival opportunity in the post-agricultural season forced them to migrate. In exchange for advance payment, labourer sells themselves to the brick lord, and the advance payment directly went for debt repayment (Majumder, 2015). The migration itself is a source of vulnerability because of a absence of efficient regulation of employment conditions. The migrant set out without any assurance of a job, and lack of powerful allies or networks of any kind, in the temporary destination area (Rafique, Massey, & Rogaly, 2006). For the large majority of the migrant, labour circulation is not a free choice. Instead, it is a tireless and frustrating journey that has to be repeated again and again. "*The migrant barely improves skilled or bringing back savings that can be used for productive investment leading to a more secure economic condition. The circulation is at best a survival strategy, a route taken to cope with the threat of unemployment and the lack of means needed to keep the household going"* (Breman J. , 1996) (Breman J. , 2004) (Breman J. , 2009) (Breman J. , 2013) (Breman J. , 2015).

In this contrast debate on the impact of migration, the main objective of this chapter is to analyse the impact of migration through a livelihood framework. It has examined the changes in livelihood absolute term among migrant households and relative to the non-migrant households. So, it clarifies the importance and implication of migration in the economy and society. This chapter has four major sections; Introduction states the debates and justification of our research on migrant and livelihood strategy. The second section points out the data and methodology. The third section gives empirical results of migration impact on livelihood, followed by concluding remarks.

5.2 Data & Methodology

5.2.1 Data Source

This chapter has used primary data to examine the impact of cyclical migration on the livelihood of migrant households. The survey includes 651 sample households out of total 1906 households. The selected sample is around 34 per cent of total households (see chapter 3 for sampling strategy). This chapter includes information regarding individual earning, which adds up in household's level. It includes earning from self-employed in the fam and non-farm work, daily wage earning from the farm and non-farm labour activities (MGNREGA work), the salary earning of private and government employee, income from the collection of forest product, livestock and the remittance income from migration. The consumption expenditure information

is also collected in the primary survey to understand the households' living situation. The information regarding house, sanitation, electricity and cooking fuel is collected to understand the households' physical condition. Education variable is used to analyses the migration impact on human capital formation. The livelihood approach to migration argument is substantiated through the use of remittance information.

5.2.2 Methodology

The livelihood includes financial, physical, human, and social capital of the households. The improvement in Livelihood condition suggests the positive change in four capitals of the households. The improvement requires a base to see the changes; this chapter has used the non-migrant households and the economic condition of migrant households except remittance income as a base category to analysis the improvement in livelihood situation due to migration[22]. The comparisons of livelihood improvement are represented in percentage term through the cross table. The social group, landholding category and origin districts are base variable in the cross tabulation. We also calculate the Herfindahl Index[23] (HI) to explains the income diversification. Through t-test, we verified the differences in Income diversification index (IDI) among the different groups.

The Principal Component Analysis (PCA) has been used to make different livelihood capital indices[24]. Before applying PCA for making indices, we have converted all the continuous into a binary categorical variable. All the continuous variable has divided into two parts based on the mean value, i.e., 1 for lower than the mean value, and 2 for more than and equal to mean value. After the initial works, PCA has been applied to the selected variables and eigenvectors, derived from the component matrix that has been used as weights for summary statistics and factor score of the variables used in the calculation. The predicted value of the composite index is used in the further analysis of each capital indices. We also checked the reliability of the

[22] This improvement should not be look as transform of poor to non-poor households (Deshingkar, 2010) (Deshingkar & Start, 2003).

[23] Herfindahl index $H = \Sigma (S_i^2)$ Where S_i is the income share of firm *i source* in total income. The Herfindahl index (*H*), also known as Herfindahl-Hirschman Index (HHI), value come in between zero to one. This Herfindahl index use in the measurement of diversification value (Barrett & Thomas, 2000). The diversification index is calculated as: D_1=1-H where, *H* is Herfindahl index

[24] The PCA is a dimension-reduction method which reduce a broad set of variables to a small set that still contains most of the information of large set variables.

index with the help of Cronbach alpha (**α**) value[25]. The migration impact on each index is verified through the average treatment effect (ATE).

Financial Capital Index (FCI)- It includes information regarding income, consumption, borrowing, access to institutional borrowing and occupational improvement (changes). The income and consumption information are divided into two categories from their average value. All five variables of financial capital are a binary category, where movement from 0 to 1 is an improvement. PCA has used to construct the FCI from these five variables. The Cronbach alpha (α) value use to check the reliability of these variables in FCI; the Cronbach alpha (α) value is 0.5268 ($\alpha > 0.5$).

Physical Capital Index (PCI)- It includes information regarding the quality of house, sanitation, cooking fuel, access to drinking water and electricity connection. The quality of house is a binary (1- at least two room with RCC roof and concert wall, 0- rest houses). Cooking fuel also two categories as 1- LPG and 0- all others. The sanitation, drinking water and electricity are categories based on access or not. The Cronbach alpha (α) value for physical capital index is 0.6862 ($\alpha > 0.5$).

Human Capital Index (HCI)- This complex index formed with the help of variables like years of education of working-age member, years of education of the household's head, any member of the households have technical or vocational education, drop out of any member within the age group 6 to 18. The years of education of working-age members and household's head are categorised into two groups from their average value. The **α** value for the index is about 0.5529.

Livelihood Capital Index (LCI)- The index of livelihood capital has been generated with the help of financial, physical and human capital index. The **α** value for this index is about 0.64.

The personal relationship changes within the family and the community are qualitatively verified to illustrate the social capital changes due to migration. The cross table of unitary and joint family information shows the migration impact on family relationship.

[25] The Cronbach alpha (**α**) test has been used to estimate the significance of the indices. The calculated value for **α** indicates the percentage of reliable variance and internal consistency. If the α value is equal to and higher than 0.5 consider being reliable and acceptable (Sijtsma, 2009); (Peters, 2014).

5.3 Migration and Livelihood

In this regard, we have analysed the impact of cyclical migration on the livelihood condition of migrant households. It has verified the impact of migration on financial, human and physical capital of migrant households. The improvement in financial capital has been verified by comparing consumption, income, investment spending, and credit access among migrant and non-migrant households. The physical capital evaluates through comparison of land purchase, house, sanitation facility and cooking fuel among migrant and non-migrant households. In human capital, we have compared the dropout rate of young children and years of education of the working-age individual and household head and technical education among migrant and non-migrant households. In social capital, we descriptively explain the changes in the social relationship due to migration. The following section gives details about financial, physical, human and social capital.

5.3.1 Financial Capital

The study has taken consumption expenditure, income, access to credit and occupational diversification as a proxy for financial capital. It has compared the current position of migrant and non-migrant households in these four variables. It has also investigated the importance of remittance income to meet their consumption expenditure. Secondly, we have constructed an index of financial capital out of these four variables. The value of FCI is compared among migrant and non-migrant households across socioeconomic groups.

5.3.1.1 Importance of remittance in consumption spending

We have compared the consumption and income of migrant households across socioeconomic groups to understand the impotence of remittance to access minimum consumption spending. First, we have compared the origin source of income with their minimum require consumption expenditure[26]. The comparison of income and consumption expenditure is presented in Table 5.1. The average origin sources of income are 88486 rupees, and consumption expenditure is 40247 rupees per households. The consumption as a percentage of origin sources of income explains the deficit in income to maintain their minimum consumption expenditure. The survey found that consumption as a percentage of origin sources of income is 87.2 per cent. Across survey districts, consumption as a percentage of origin sources of income is 108.6, 65.7 and

[26] The minimum require consumption expenditure includes spending on food, cloth, foot wear, health, house renovation, festival spending and other non-food. It doesn't include investment expenditure, educational expenditure, other expenditure on durable goods and luxurious goods.

87.6 per cent among survey households of Balangir, Baleswar and Ganjam districts. It explains that averagely per households spend 8.6 per cent more than their origin source of income in Balangir district. Across social group, lower castes households spend around 88 per cent, whereas OC households spend 78 per cent of origin sources of income on minimum require consumption expenditure. The consumption as a percentage of origin sources of income decreases with an increase in landholding. However, this average consumption as a percentage of origin income does not explain the specific households whose income has deficit to maintain their minimum required consumption expenditure.

Table 5.1 Average yearly income from at the place of origin, yearly consumption expenditure and percentage of households consume more than their income across survey districts, social groups and land holding groups

Variable	Category	Total Income at origin	HH Consumption Expenditure	Average of Con. as % of Income in Origin Sources	Percentage of HH con. > income in origin Sources
District	Balangir	53705	32147	108.6	31.8 (67)
	Baleswar	108730	44185	65.7	17.2 (38)
	Ganjam	56947	35118	87.6	24.4 (52)
Social Group	ST	56947	35118	87.6	27.2 (25)
	SC	74198	38399	87.1	29.8 (74)
	OBC	87026	39801	89.2	20.3 (50)
	OC	204830	57953	78.8	13.6 (8)
Land holding Group	LL	62211	37066	101.8	32.6 (56)
	MF	67773	35996	99.2	29.1 (76)
	SF	83219	38309	67.1	16.5 (16)
	MDF	150395	50990	60.3	7.8 (6)
	LF	217336	63180	50.9	6.8 (3)
All Survey HH		88486	40247	87.2	24.3 (157)

Source- Author's Primary Survey 2018
Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other castes/category, LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer, HH- Households. The value inside the parenthesis () explains the number of households.

The last column of Table 5.1 explains number and percentage of households whose consumption expenditure is more than the origin source of income. We have found that 24.3 per cent of survey households cannot meet their minimum required consumption expenditure from their origin source of income. Across survey districts, 31.8 per cent of Balangir district survey households have deficit income to meet their consumption expenditure and 17.2 per cent in Baleswar and 24.4 per cent in Ganjam districts. Lack of regular source of earning and

low farm and non-farm wage rate are the leading causes of the high rate of deficit income among the survey households of Balangir and Ganjam districts. The consumption as percentage of income is decreasing with an increase in the socioeconomic status. Around 28 per cent of SC and ST households have deficit income to meet their consumption expenditure, and it is 20.3 and 13.6 per cent among OBC and OC households. The percentage of households have a deficit income to meet their consumption expenditure is highest among the landless at 32.6 per cent, followed by marginal farmer, small farmer, medium farmer and large farmer.

Table 5.2 Average yearly Income from origin source, yearly consumption expenditure and percentage of households consume more than their income over migrant and non-migrant households across survey district, social group and land holding group

Variable	Category	Migrant HH				Non-Migrant HH			
		Total Income in origin sources	HH Con. Exp.	Con. as % of Income in Origin Sources	Percentage of HH con. > income in origin Sources	Total Income in origin sources	HH Con. Exp.	Con. as % of Income in Origin Sources	Percentage of HH con.> income in origin Sources
District	Balangir	37287	30960	141.8	46.3 (57)	76142	33787	62.2	11.4 (10)
	Baleswar	75334	44825	91.7	37.9 (36)	133974	43698	46.1	1.6 (2)
	Ganjam	73239	45479	115.4	36.3 (49)	152369	41865	41.3	3.8 (3)
Social Group	ST	45960	33993	103.4	38.6 (22)	74841	36949	61.9	8.6 (3)
	SC	59559	39767	112.1	45.8 (70)	97591	36165	46.7	4.2 (4)
	OBC	64521	40967	126.8	35.0 (42)	108468	38689	53.3	6.3 (8)
	Others	95386	55792	150.3	34.8 (8)	274753	59333	33.1	0.0 (0)
Land holding Group	LL	51733	38424	131.4	49.1 (52)	79039	34884	55.7	6.1 (4)
	MF	55157	36979	125.3	42.2 (68)	88083	34381	56.3	8.0 (8)
	SF	62656	40959	90.7	31.1 (14)	101014	36015	46.4	3.8 (2)
	MDF	95199	52006	93.8	17.2 (5)	183743	50376	40.0	2.1 (1)
	LF	127181	64268	81.1	20.0 (3)	263968	62618	35.4	0.0 (0)
All Survey HH		61383	40286	118.2	40.2 (142)	121194	40200	49.7	5.1 (15)

Source & Note- same as Table 5.1

Further comparison of average yearly income, consumption and deficit income among social group and landholding categories across the survey districts is presented in Appendix 5, Table 1 & 2. The average yearly income is lower among landholding categories of Balangir district than their respective counterpart of Ganjam and Baleswar districts. A relatively higher proportion of landless and marginal farmer have deficit income in Balangir than Ganjam and Baleswar district. Across landholding group of Balangir district have lower income and higher

rate deficit income than their respective counterpart of Ganjam and Baleswar districts. A similar pattern also found among social group across survey districts. Across social group of Balangir district have lower income and higher proportion deficit income than their respective counterpart of Ganjam and Baleswar districts. A relatively higher proportion of SC & ST households have deficit income in Balangir than Ganjam and Baleswar district. The difference in income is not only due to their socioeconomic disparity but also due to dissimilarity in the availability of resource and opportunity across survey district.

How could the households meet this deficit income to maintain their minimum required consumption expenditure? Next alternative opportunity among such poor households is to meet their deficit income through migration income or remittance. Table 5.2 presents the comparison in income, consumption and percentage of deficit income households among the migrant and non-migrant households across survey district, social and landholding categories. The average yearly income of migrant households is around half of non-migrant households and less diverse among migrant than non-migrant households across survey district and socioeconomic categories. The average yearly consumption expenditure is similar between migrant and non-migrant households across survey district and socioeconomic categories. Around 40 percent of migrant households have deficit in origin sources of income to meet their minimum required consumption expenditure whereas it is only 5 percent among non-migrant households. Origin sources income of the migrant households is nearly half compared to non-migrant households across the socioeconomic group. However, the percentage of households have deficit income to their regular consumption expenditure is nearly similar across survey district and socioeconomic categories. It explains that those who have a stable income source in origin don't engage in migration. Secondly, the poor households have a higher chance of engaging in migration to fill their deficit of origin income.

Further analysis of income, consumption and percentage of deficit income households among landholding categories and social group across survey district is presented in Appendix 5, Table 3 & 4. Within the migrant households, Average origin income of small and medium farmer of Balangir is nearly similar to the landless and marginal farmer of Baleswar and Ganjam Districts. The corresponding landholding category of Balangir earn two-to-three-time lower income than Baleswar and Ganjam Districts. A similar result also found among the corresponding social groups of Balangir than Baleswar districts. Nearly 40 percent of migrant households have deficit income to meet their regular consumption expenditure. The percentage

of deficit income among migrant households is significantly vary across survey districts but similar among landholding and social categories within the districts. The migrant are poor households than corresponding category within their respective district. Further, the migrants of Balangir district are poorer than the migrant of corresponding category of Baleswar and Ganjam districts.

5.3.1.2 Share of remittance in total income

The significance of migration income or remittance among the migrant households is presented in Table 5.3. The remittance contributes more than 50 percent of total income among the migrant households. Remittance share in total income is highest among the survey households of Balangir, followed by Ganjam and Baleswar district. However, the average amount of remittance is lowest among the survey households of Balangir followed by Baleswar and Ganjam district. The share of remittance in total income is highest in Balangir because of the lower amount of origin income. Across social and land holding groups, the share of remittance in total income increases with the improvement in socioeconomic status. This higher share of remittance in total income among lower socioeconomic status households is due to their lower amount of origin income. Averagely the migrant households consume more than origin income, whereas they consumption expenditure as a share of total income (after adding remittance) declined to 34.7 percent. After adding their remittance, all migrant households have enough income to manage the minimum consumption expenditure.

Migration improves the economic condition and smoothing the consumption expenditure of migrant households (Deshingkar & Start, 2003); (Deshingkar, Kumar, Chobey, & Kumar, 2006). But does this improvement out weight the non-migrant households? Most of the studies from secondary data (mostly NSS) have found that consumption expenditure of the migrant households is significantly more than the non-migrant households (Kundu & Saraswati, 2012); (Mohanty, Dubey, & Parida, 2014); (Parida, Mohanty, & K., 2015). They also argue that migrant spends more on health and education than non-migrant households[27]. We found that the remittance contributes a significant portion of income for the migrant households. The remittance is crucial to maintain the minimum consumption expenditure of migrant households under the current socio-economic circumstance. Appendix 5, Table 6 reveals that around 50

[27] There are three types of migration in NSS data survey, as Seasonal, Short-term and Permanent. Most of these studies on secondary data compare the expenditure pattern of Short-term migrant with rest of the households; The rest of the households also includes the seasonal migrant. And secondly, these study does not exclude the socio-geographical differences.

per cent of migrant households have spent their first major part of remittance (maximum amount, mostly more than 50 percent of remittance) on regular consumption expenditure. Again, 24 per cent of migrant households have used the second major share of remittance (it ranges from 15 to 30 percent of remittance) on regular consumption expenditure[28] (see Appendix 5, Table 7).

Table 5.3: - Average yearly Income from Origin source, remittance, total income, yearly consumption expenditure as a percentage of origin income and total income among the migrant households across survey districts, social groups and landholding categories.

Variable	Category	Total Income	Migration Income	Total Income in origin sources	HH Consumption Expenditure	Consumption as % of Origin Sources of Income	Consumption as % of total Income
District	Balangir	89035	51748 (58.1)	37287 (41.9)	30960	141.8	38.2
	Baleswar	145272	69938 (48.1)	75334 (51.9)	44825	91.7	35.6
	Ganjam	165626	92387 (55.8)	73239 (44.2)	45479	115.3	31.0
Social Group	ST	95030	49070 (51.6)	45960 (48.4)	33993	103.4	38.3
	SC	136149	76590 (56.3)	59559 (43.7)	39767	112.1	33.2
	OBC	139979	75459 (53.9)	64521 (46.1)	40967	126.8	34.5
	Others	179603	84217 (46.9)	95386 (53.1)	55792	150.2	37.6
Land holding Group	LL	124550	72816 (58.5)	51733 (41.5)	38424	131.4	34.9
	MF	123940	68783 (55.5)	55157 (44.5)	36979	125.3	35.0
	SF	132278	69622 (52.6)	62656 (47.4)	40959	90.7	33.5
	MDF	179389	84189 (46.9)	95199 (53.1)	52006	93.8	34.5
	LF	218448	91267 (41.8)	127181 (58.2)	64268	81.1	35.2
All Survey HH		133675	72292 (54.1)	61383 (45.9)	40286	118.2	34.7

Source & Note[1]- same as Table 5.1; Note[2]- The value inside the parenthesis () explains the percentage share of total income.

5.3.1.3 Income diversification

Remittance contributes a significant share of income for migrant households. The average yearly origin income of migration is nearly half of non-migrant households. And after adding remittance to the average income of migrant households is higher than non-migrant households. We have also checked the income diversification of migrant and non-migrant households, and it has also verified the impact of remittance on income diversification of

[28] The regular consumption expenditure includes expenditure on Food, Non-food essential (cloth, food wears, electric bill, haircut, cooking fuel, transportation, mobile bill, house and vehicle maintenance expenditure), health and festival expenditure. It does not include major renovation of house, purchase of durable goods, expenses on marriage and social ceremony, investment on education.

migrant households. The t-test has verified the significance of the difference in income diversification index (IDI) between migrant and non-migrant households. The IDI ranges from 0 to 1; 1 represents the highest, and 0 represents the lowest diversification value. To understand the economic impact of migration; we have compared the IDI of migrant households with and without remittance against the non-migrant households to see the significant changes in IDI of migrant households due to remittance.

Table 5.4: - IDI of migrant households with and without remittance, non-migrant households and all households across survey districts, social groups, and land holding groups.

Variable	Category	Migrant$_{wor}$ (M_{wor})	Migrant$_{wr}$ (M_{wr})	Non-migrant (NM	All HH_{WR}	(M_{wor}-NM)	(M_{wr}-NM)
District	Balangir	0.434	0.514	0.416	0.473	0.019 (0.032)	0.098*** (0.027)
	Baleswar	0.388	0.537	0.465	0.496	-0.08*** (0.029)	0.071*** (0.023)
	Ganjam	0.387	0.5	0.374	0.454	0.013 (0.033)	0.126*** (0.025)
Social Group	ST	0.454	0.556	0.444	0.513	0.014 (0.051)	0.112** (0.041)
	SC	0.428	0.506	0.49	0.5	-0.062** (0.028)	0.017 (0.022)
	OBC	0.378	0.516	0.404	0.459	-0.027 (0.029)	0.112*** (0.024)
	OC	0.253	0.461	0.315	0.372	-0.062 (0.056)	0.146*** (0.042)
Land Holding Group	LL	0.388	0.480	0.463	0.474	-0.076** (0.035)	0.018 (0.03)
	MF	0.474	0.530	0.521	0.526	-0.047* (0.03)	0.009 (0.02)
	SF	0.362	0.542	0.396	0.464	-0.032 (0.043)	0.145*** (0.035)
	MDF	0.210	0.513	0.293	0.376	0.083* (0.047)	0.22*** (0.04)
	LF	0.257	0.510	0.289	0.364	-0.032 (0.065)	0.221*** (0.057)
All HH		0.404	0.514	0.426	0.474	-0.022 (0.018)	0.088*** (0.014)

Source- Author's Primary Survey 2018

Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other castes/category, LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer, HH- Households. The value inside the parenthesis () explains the value of stander error. *, **, *** represents level of significance at 10%, 5% and 1% respectively. M_{wor} is IDI value of migrant households without remittance. M_{wr} is IDI value of migrant households with remittance.

Table 5.4 presents the income diversification index (IDI) of migrant households with and without remittance, non-migrant and all households. The IDI of all households suggests that the dependence on diverse sources of income decreases with an increase in socioeconomic status. The socioeconomically better-off households have a stable income source, but the marginalised section doesn't have any stable income source. The marginalised section engage in multiple sources of income to sustain their livelihood. The IDI of migrant households without remittance is equal to the IDI of non-migrant households. However, the income of migrant households without remittance is half of the non-migrant households (see Table 5.2). The IDI of migrant households with remittance income significantly outweighed the IDI of non-migrant households across socioeconomic-geographical groups except SC in social and landless in land holding groups. The significant increment in IDI of migrant households due to remittance income is required to sustain their livelihood. The opportunity in origin source is

not enough for poor households to sustain their livelihood expenditure. The migration is another source of income diversification to sustain their livelihood in the current situation.

5.3.1.4 Migration impact on Access to Credit

Deshingkar also argues that migration enhances creditworthiness and access to lumpsum credit (Deshingkar, 2017). We have compared the access to credit among migrant and non-migrant households. Table 5.5 presents access to credit and source of credit among migrant and non-migrant households. Percentage of households borrowing is similar among migrant and non-migrant households. The credit from the institutional sources (cheap / subsidies sources) is significantly higher among the non-migrant households than migrant households across socioeconomic groups[29]. The subsidies bank credits link with landholding and agricultural production. Most migrants come from landless households, and secondly, they demand credit for consumption purposes. So, the higher proportion of migrant households directly depend on the non-institutional source of credit at a higher rate of interest. These non-institutional moneylenders provide credit without any institutional collateral (Sarap, 1991) and manage risk at a personal level (Sarap, 1990); (Sarap, 1987).

The remittance helps the migrant to repay debt and enhance their creditworthiness in the eye of non-institutional moneylenders (Deshingkar, 2010). The amount of credit is higher among the non-migrant than the migrant in the institutional and non-institutional source of credit (see Appendix 5, Table 8). However, the migrant household pays an averagely higher interest rate on the non-institutional credit than non-migrant households (See Appendix 5, Table 9). It may be true, that the poor households have a higher amount of access to credit from non-institutional moneylender due to migration. But this access to non-institutional credit can't be interpreted as an improvement; instead, it is a process to smoothing their consumption expenditure over the year. We have also found that 27 per cent of migrant households have used their first major share of remittance to repay the debt (see Appendix5, Table 6). And another 14.2 per cent of migrant households have used their second major part of remittance to repay the debt (Appendix 5, Table 7). A significant portion of remittance used to repay the debt, which improves their creditworthiness among the non-institutional lenders. So, they have easy access to the non-institutional source of credit in the contingency time, to repay this debt they enter into the migration stream.

[29] The Institutional source of credit linked with the landholding and the recent development of micro finance has failed to substitute non-institutional source of credit.

Table 5.5: - Access to credit among migrant and non-migrant households across survey districts, social groups and land holding groups.

Variable	Category	Migrant HH			Non-Migrant HH		
		Percentage of HH Borrow	Percentage of HH Borrow from Institutional source	Percentage of HH Borrow from non-institutional source	Percentage of HH Borrow	Percentage of HH Borrow from Institutional source	Percentage of HH Borrow from non-institutional source
District	Balangir	82.9 (102)	18.6	95.1	60.0 (54)	55.6	66.7
	Baleswar	62.5 (60)	90.0	31.7	76.4 (97)	92.8	24.7
	Ganjam	59.1 (81)	61.7	58.0	56.4 (44)	81.8	31.8
Social Group	ST	75.4 (43)	23.3	86.0	71.4 (25)	60.0	60.0
	SC	63.9 (99)	56.6	64.6	71.1 (69)	76.8	49.3
	OBC	72.7 (88)	54.5	65.9	64.6 (82)	84.1	29.3
	OC	56.5 (13)	69.2	30.8	52.8 (19)	100.0	5.3
Land Holding Group	LL	61.3 (65)	53.8	69.2	74.2 (49)	79.6	36.7
	MF	69.6 (112)	35.7	73.2	58.0 (58)	67.2	50.0
	SF	77.8 (35)	57.1	68.6	67.3 (35)	82.9	45.7
	MDF	79.3 (23)	91.3	39.1	70.8 (34)	88.2	32.4
	LF	53.3 (8)	87.5	37.5	65.5 (19)	100.0	0.0
All HH		68.3 (243)	50.6	67.1	66.1 (195)	80.0	37.9

Source & Note- same as Table 5.1;

5.3.1.5 Migration impact on Occupational Improvement and Investment spending

One of the strong arguments of livelihood strategy is that migration improves the occupational opportunities among migrant households. We have verified the occupational improvement of migrant and non-migrant households. The occupational improvement define as if any household's member engaged in non-farm self-employed activity with regular earning. Deshingkar argues that the migrant spends their remittance to improve their occupational opportunity in origin place (Deshingkar, 2004) (Deshingkar, Khandelwal, & Farrrington, 2008). We found that more percentage of non-migrant households are earning from the non-farm self-employed activities than migrant households (see table 5.6). It is also clearly visible across socioeconomic groups.

These occupational improvements may be due to their class factor. So, we also quire about such household who change their occupation from the remittance. The survey found ten such households in Ganjam and Baleswar district, who have used their remittance to start a non-farm business (small shop in village) and earning regular income in origin place. Out of these ten households, three are from SC, four are from OBC and three are from OC social groups. These number is insignificant as compared to the number of migrant households and migration history. The use of remittance information elucidates that around 7 percent of migrant

households have used their first major share of remittance on investment (see Appendix 5, Table 6). Another one-fourth of the migrant household have used their second major share of remittance on investment (mostly variable investment (labour and capital cost) on agriculture) (Appendix 5, Table 7).

Table 5.6: - Proportion of households improve their occupation among migrant and non-migrant households across survey districts, social groups, and land holding groups.

		Migrant HH		Non-Migrant HH		All Households	
Variable	Category	No impro-vement	Occupational Improvement (private)	No impro-vement	Occupational Improvement (private)	No impro-vement	Occupational Improvement (private)
District	Balangir	99.2	0.8	92.2	7.8	96.2	3.8
	Baleswar	86.5	13.5	76.4	23.6	80.7	19.3
	Ganjam	92.7	7.3	74.4	25.6	86	14
Social Group	ST	98.2	1.8	97.1	2.9	97.8	2.2
	SC	92.9	7.1	89.7	10.3	91.7	8.3
	OBC	93.4	6.6	71.7	28.3	82.3	17.7
	OC	82.6	17.4	72.2	27.8	76.3	23.7
Land Holding Group	LL	92.5	7.5	81.8	18.2	88.4	11.6
	MF	93.8	6.2	80.0	20.0	88.5	11.5
	SF	97.8	2.2	86.5	13.5	91.8	8.2
	MDF	89.7	10.3	75.0	25.0	80.5	19.5
	LF	86.7	13.3	79.3	20.7	81.8	18.2
All HH		93.3	6.7	80.7	19.3	87.6	12.4

Source & Note- same as Table 5.1;

5.3.1.6 Financial Capital Index (FCI)

In Financial capital, we have investigated the households' financial condition through their consumption expenditure, share in income, access to credit (any credit), access to institutional credit, and occupational diversification. Through PCA analysis, we construct an index of financial capital. Table 5.7 presents the value of the financial capital index and average treatment effect (ATE) of migration. The ATE explains that significant impact of migration on FCI. We found that the FCI is significantly lesser among the migrant than non-migrant households. It suggests that the financial capital of migrant households is significantly lower than the non-migrant households. The subgroup level analysis suggests that the difference in FCI among migrant and non-migrant is insignificant except in Baleswar district. Secondly, the study analyses the difference in FCI across geography, social group (see Appendix 5, Table 5) through t-test. We found that the FCI of migrant and non-migrant households significantly differs across survey district and social group. FCI of migrant, non-migrant and all households

are significantly higher in Baleswar and Ganjam than Balangir districts than their respective counter group. FCI of OC & OBC migrant households is significantly higher than FCI of SC & ST migrant households. The FCI of OC & OBC non-migrant households is significantly higher than the FCI of SC & ST non-migrant Households. The significant difference in FCI among migrant and non-migrant is clearly explaining through the socio-geographical difference in FCI.

Table 5.7: - Financial Capital Index and ATE of migration across survey district, Social group and land holding group.

Variable	Category	Migrant (M)	Non-Migrant (NM)	ATE {(M-NM) =0}	All HH
District	Balangir	-0.580	-0.684	0.104 (0.149)	-0.64
	Baleswar	0.322	0.649	-0.328* (0.174)	0.508
	Ganjam	0.049	0.209	-0.16 (0.191)	0.107
Category	ST	-0.631	-0.310	-0.321 (0.25)	-0.59
	SC	-0.166	-0.067	-0.99 (0.161)	-0.128
	OBC	0.056	0.306	-0.250 (0.176)	0.185
	Others	0.361	0.692	-0.331 (0.367)	0.563
Land Holding Group	LL	-0.279	0.136	-0.414** (0.2)	-0.120
	MF	-0.336	-0.279	-0.058 (0.16)	-0.314
	SF	0.097	0.027	0.07 (0.256)	0.060
	MDF	0.870	0.843	-0.027 (0.304)	0.853
	LF	0.505	0.813	-0.308 (0.431)	0.708
All HH		-0.131	0.158	-0.288*** (0.104)	

Source- Author's Primary Survey 2018

Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other castes/category, LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer, HH- Households. The figure inside the parenthesis () explains the value of stander error. *, **, *** represents level of significance at 10%, 5% and 1% respectively. In ATE, the null hypothesis is equal to zero.

The consumption expenditure, income of migrant households has increased due to migration. But this increment does not outweigh the non-migrant households. Around 40 percent of the migrant households can meet their minimum required consumption expenditure through remittance income. The migration fills the gap of origin income to meet the minimum required consumption expenditure. It also found that migrant households have invested part of their remittance on agriculture and non-farm activities. However, this investment share is not significant compared to the number of migration and migration history. The FCI suggests lack of improvement among migrant in comparison to the non-migrant households. This significant difference in FCI among migrant and non-migrant is due to their origin socio-geographical location.

5.3.2 Physical capital

Physical capital is another critical factor in sustainable livelihood. The study includes quality of house, latrine, bathroom, access to drinking water, electricity, LPG as proxies for physical capital. We have compared the access to the physical capital among migrant and non-migrant households across socioeconomic indicators. The study also investigates the purchase of land from the remittance income.

5.3.2.1 Remittance impact on the purchase of land and house construction

Out of 356 migrant households, only six households have purchased land in the last ten years from the remittance income, which is nearly 1.6 percent of migrant households. They have purchased on an average 0.26 acres of land, mostly for house construction. The social characteristics suggests that four OBC, one ST and One OC households have purchased land from the remittance income. We have also collected information regarding construction or major renovation of the house in the last five years. Table 5.8 presents the percentage of survey household have constructed or majorly renovated their house. Around 38.6 per cent of survey households have constructed or renovated their house, and 18 per cent get government facilities to construct houses under PMGAY or BPGY.

The percentage of households majorly renovating or constructing a house increases with an increase in the socioeconomic status. Across socioeconomic status, more percentage of migrant households have constructed or majorly renovated their house than the non-migrant households. Moreover, a higher percentage of migrant households get government facilities to construct houses under PMGAY or BPGY than non-migrant households[30]. Remittance use also reveals that around 10 per cent of migrant use their first major part of remittance in the construction and renovation of house (see Appendix 5, Table 6). Another 15 percent of migrant use their second major share of remittance for the construction and renovation of houses (see Appendix 5, Table 7).

[30] Around 130000 rupees have been section to construct a house under PMGAY or BPGY, but households are additionally using their own money (mostly the remittance income) to construct little bigger and stronger house than the scheme.

Table 5.8 Percentage of households has constructed or major renovated their house in the last five years, among migrant and non-migrant households across survey districts, social groups and land holding groups.

Variable	Category	Percentage of mig. HH renovate in last 5 years	Percentage of non-mig. HH renovate in last 5 years	Percentage of total HH renovate in last 5 years	Percentage of mig. HH get govt House in last 5years	Percentage of non-mig. HH get govt. House in last 5years	Percentage of total HH get govt House in last 5years
District	Balangir	39.8 (49)	35.6 (32)	38.0 (81)	22.8 (28)	12.2 (11)	18.3 (39)
	Baleswar	40.6 (39)	33.1 (42)	36.3 (81)	22.9 (22)	12.6 (16)	17.0 (38)
	Ganjam	41.6 (57)	41.0 (32)	41.4 (89)	19.0 (26)	19.2 (15)	19.1 (41)
Social Group	ST	40.4 (23)	31.4 (11)	37.0 (34)	19.3 (11)	11.4 (4)	16.3 (15)
	SC	36.8 (57)	25.8 (25)	32.5 (82)	25.8 (40)	13.4 (13)	21.0 (53)
	OBC	43.8 (53)	38.6 (49)	41.1 (102)	19.0 (23)	16.5 (21)	17.7 (44)
	OC	52.2 (12)	58.3 (21)	55.9 (33)	8.7 (2)	11.1 (4)	10.2 (6)
Land holding Group	LL	35.8 (38)	18.2 (12)	29.1 (50)	24.5 (26)	13.6 (9)	20.3 (35)
	MF	39.6 (74)	27.1 (36)	34.4 (110)	15.0 (28)	15.0 (20)	18.1 (58)
	SF	47.8 (22)	41.2 (21)	51.5 (50)	23.9 (11)	17.6 (9)	20.6 (20)
	MDF	69.2 (9)	90.3 (28)	68.2 (30)	7.7 (1)	12.9 (4)	11.4 (5)
	LF	50.0 (2)	64.3 (9)	61.1 (11)	0.0 (0)	0.0 (0)	0.0 (0)
All Survey HH		40.7 (145)	35.6 (106)	21.3 (76)	14.2 (42)	38.6 (251)	18.1 (118)

Source & Note- same as Table 5.1.

5.3.2.2 Comparison of physical capital among migrant and non-migrant households

The significant share of remittance spends to improve the quality of house. Does this spending of remittance outweigh the house condition of non-migrant households? The study has compared the quality of house of migrant and non-migrant households. The quality of house information is presented in Appendix 5, Table 12. We have divided the quality of house into two categories as a good quality house (at least two room with a concrete wall and RCC roof; *Pakka House*) and all other types of houses included in poor quality house category. Among all survey households, nearly 70 per cent have a good quality house and rest 30 per cent have a bad quality house. The same pattern of ownership of the house also found among migrant and non-migrant households. Availability of latrine and bathroom in the house are other variables of physical capital. We have found that more percentage of non-migrant households have latrine and bathroom facility than migrant households (see Appendix 5, Table 13 & Table 14).

The study also collects information regarding access to tap (Supply) drinking water, electricity connection, and LPG access. Appendix 5, Table 15 presents access to drinking water among survey households. Tap drinking water facility is hardly found among survey households of Balangir district. Nearly 80 per cent of the survey households of Baleswar district have access to tap drinking water. The percentage of households' access to drinking water is higher among non-migrant than migrant households across socioeconomic indicators. The electricity connection is presented in Appendix 5, Table 16. The percentage of households' electricity connection is similar among migrant and non-migrant households. The LPG use in cooking fuel is significantly higher among non-migrant households than migrant households (see Appendix 5 Table 17).

5.3.2.3 Physical Capital Index (PCI)

The physical capital variables suggest that the non-migrant have significantly higher availability of assets than migrant households. Through PCA analysis, we have constructed an index of Physical capital. Table 5.9 presents the value of PCI and average treatment effect (ATE) of migration. We found that the PCI is significantly lower among the migrant than the non-migrant households and across the socioeconomic-geographical groups. Secondly, the study analyses the difference in PCI among geography and social groups (see Appendix 5, Table 18). We found that the PCI of Migrant and non-migrant households is significantly different among survey districts and social groups. The PCI of migrant, non-migrant and all households is significantly higher in Baleswar and Ganjam than Balangir districts. Across social groups, The PCI of migrant households increases with an increase in social status; similar results found in the analyses of PCI of non-migrant households across social group. The significant difference in PCI among migrant and non-migrant is due to the migration and socio-geographical differences.

The migrant households have used part of the remittance to renovate or construct house and purchase land. Still, the quality of house and PCI of migrant households is lower than the non-migrant households. It suggests that the construction of house from the remittance is not a great improvement in the condition of house; rather, it is only a minimum required homestead in the current situation. The poor are unable to meet this minimum required condition of homestead from their sources of income at the place of origin. The remittance is another way of filling the deficit income gap to construct a basic structure of a livable homestead.

Table 5.9: - Physical Capital Index and ATE of migration across survey district, social group and land holding group.

Variable	Category	Migrant	Non-Migrant	ATE {(M-NM) =0}	All HH
District	Balangir	-1.376	-0.727	-0.649*** (0.193)	-1.102
	Baleswar	0.454	0.788	-0.334** (0.159)	0.644
	Ganjam	0.287	0.745	-0.417** (0.197)	0.439
Category	ST	-1.105	-0.333	-0.773** (0.303)	-0.811
	SC	-0.25	0.135	-0.358** (0.177)	-0.101
	OBC	-0.022	0.116	-0.138 (0.201)	0.048
	Others	0.756	1.981	-1.236*** (0.264)	1.5
Land Holding Group	LL	-0.514	-0.255	-0.259 (0.218)	-0.414
	MF	-0.447	-0.102	-0.346* (0.19)	-0.316
	SF	-0.190	0.292	-0.482 (0.297)	0.068
	MDF	1.020	1.147	0.127 (0.3)	1.099
	LF	1.155	1.504	-0.349 (0.5)	1.385
All HH		-0.246	0.299	-0.545*** (0.12)	

Source & Note- Same as Table 5.6

5.3.3 Human Capital

Human Capital is another crucial variable of sustainable livelihood. This section has compared the human capital of migrant and non-migrant households to verify the improvement due to migration. Most studies from secondary data (mostly NSS) found that positive impact of migration on human capital; precisely, the consumption expenditure on health and education is higher among migrant than non-migrant households (Kundu & Saraswati, 2012); (Mohanty, Dubey, & Parida, 2014); (Parida, Mohanty, & K., 2015). This study has used education as a proxy of human capital to understand the impact of migration on human capital.

5.3.3.1 Education level among migrant and non-migrant households

We have verified the migration impact of human capital through years of education. It has compared the years of education of working-age individual, household head and the dropout rate in the age group of 6 to 18 years among migrant and non-migrant households[31]. The average years of education and the dropout rate are presented in Table 5.10. Average years of education of the migrant individual is 6.9 years, whereas 7.6 years among the working-age members of non-migrant households. Across socioeconomic indicators, the average years of

[31] We have found only 1 percent dropout among the school going children in age group of 6 to 14 years. This high enrolment rate may be due to the right to education, free education and compulsory, compulsory pass up to class 8th and also government have implemented different residential primary education system in migration prone district to improve enrolment rate, but this enrolment is far from the actual quality of education. We have checked the dropout rate up to secondary and higher secondary education to understand the real improvement in human capital.

education of the migrant individual is less than the average years of education of the non-migrant individual.

Table 5.10: - Average years of education and dropout rate among migrant and non-migrant households across survey districts, social groups and land holding groups.

Variable	Category	Average Years of Education working age member			Dropout rate in the age group 6 to 14		Dropout rate in the age group 15 to 18	
		Migrant Member	Non-Migrant member of migrant HH	Member of non-migrant HH	Mig. HH	Non-Mig. HH	Mig. HH	Non-Mig. HH
District	Balangir	4.9	4.3	6.2	2.4	1.4	50.7	17.5
	Baleswar	9.3	7.1	8.4	0.0	0.0	29.8	13.6
	Ganjam	8.5	5.8	7.8	0.0	2.1	39.0	21.1
Social Group	ST	4.4	4.7	6.2	0.0	0.0	40.0	15.8
	SC	7.2	6.2	6.6	0.9	0.0	37.6	21.7
	OBC	7.5	5.8	7.6	2.9	2.5	47.0	16.4
	OC	10.2	7.4	11.4	0.0	0.0	0.0	5.6
Land Holding Group	LL	6.836	5.6	6.5	0.0	0.0	46.0	20.6
	MF	6.468	5.9	6.1	0.8	0.0	41.8	23.4
	SF	7.083	6.4	7.9	2.3	0.0	33.3	13.0
	MDF	8.833	5.9	9.3	0.0	3.4	22.2	8.7
	LF	9.560	7.5	10.8	14.3	6.7	75.0	5.9
All HH		6.9	5.9	7.6	1.1	0.9	41.4	16.7

Source & Note- same as Table 5.1

We have also compared the dropout rate among the migrant and non-migrant households in the age group of 6 to 18 years to understand the impact of migration on the future generation. The dropout rate is higher among migrant households than the non-migrant households in the age groups 6 to 14 and 15 to 18. The dropout rate in the age group of 15 to 18 is two and half times higher among migrant households than the non-migrant households. The same pattern in dropout rate has also found across socioeconomic indicators. The dropout individual's activities status suggests that around 72 per cent of the dropout individual from secondary and higher secondary education have migrated, 13 per cent working in the farm and nonfarm activities, and another one-tenth are unemployed (See appendix 5, Table 19). The migration is a crucial reason for dropout among the young child of migrant households.

5.3.3.2 Human Capital Index (HCI)

Most variables of human capital suggest that non-migrant households are significantly better off than migrant households. The HCI is a combination of four educational variables: years of education of working-age individual, household head, Technological education among

household members, and dropout in age group 6 to 18 years of household members. Through PCA analysis, we have constructed an index of human capital. Table 5.11 presents the value of HCI and average treatment effect (ATE) of migration. The ATE explain the significant impact of migration on HCI. The HCI is significantly lower among the migrant than non-migrant households and across socioeconomic-geographical groups; except SC in the social and MDF and LF in land holding groups. Secondly, the study analyses the difference in HCI among the geographical, social group (see Appendix 5, Table 20).

Table 5.11: - Human Capital Index (HCI) and ATE of migration across survey district, Social group and land holding group.

Variable	Category	Migrant	Non-Migrant	ATE {(M-NM) =0}	All HH
District	Balangir	-0.965	-0.24	-0.726*** (0.143)	-0.659
	Baleswar	0.406	0.803	-0.397** (0.167)	-0.632
	Ganjam	-0.12	0.203	-0.323* (0.178)	-0.003
Social Group	ST	-0.791	-0.323	-0.468** (0.213)	-0.613
	SC	-0.213	0.013	-0.226 (0.16)	-0.126
	OBC	-0.305	0.381	-0.686*** (0.164)	0.046
	Others	0.815	1.606	-0.791*** (0.277)	1.297
Land Holding Group	LL	-0.398	-0.064	-0.333* (0.186)	-0.270
	MF	-0.380	-0.131	-0.249* (0.151)	-0.284
	SF	-0.136	0.589	-0.724*** (0.263)	0.253
	MDF	0.166	0.858	-0.691** (0.279)	0.597
	LF	0.558	1.440	-0.881* (0.478)	1.139
All HH		-0.27	0.326	0.596*** (0.101)	

Source & Note- Same as table 5.6

We found that the HCI of migrant and non-migrant households is significantly differ among survey districts and social groups. The HCI of migrant, non-migrant and all households is significantly higher in Baleswar than Ganjam and Balangir district. Across social group, The HCI of OC migrant households is significantly higher than the marginalised group; similar results also found in the HCI of non-migrant households. The significant difference in HCI among migrant and non-migrant explain through the ATE of migration and socio-geographical differences.

The migrant households have used their part of remittance in education. Only 2.5 percent of migrant spend the first major share of remittance on education, and another 6.6 percent of migrant spend the second major chare of remittance on education[32]. Still, the years of education and HCI of the migrant households is lower than non-migrant households. The spending of

[32] The remittance spend on health is contingency spending to revive from serious health problem. Some household also report that the health expenditure on their family member forced them to migrate to meet this health expenditure.

remittance on education is insignificant to contribute to a change in educational pattern among migrant households. Secondly, we have also found that migration is another reason for the degradation of education quality. Most youths under the age of 18 years think that migration is the only option in their future life. So, they prefer to join in migration work rather than invest time in education. The migrant household respondens mention that education does not improve their income and opportunities & quality of employment in destination; rather, the work experience matters much.

5.3.4 Social Capital

Human capital is another important variable of sustainable livelihood. This section explains the impact of migration on the social relationship among the survey households. The social capital impact verifies through two prospective, one family relationship and secondly, social bonding. Table 5.12 presents the family relationship between migrant and non-migrant households. The family relationship explains whether the households are living in a unitary or joint family[33]. The survey found that 42 per cent of survey households stay in the joint family system, and it is nearly 50 per cent among migrant and 35 per cent among non-migrant households. Across socioeconomic-geographical groups, a higher percentage of the migrant like to stay in the joint family than non-migrant households. The migrant individual feels secure of their rest member in the joint family system.

The migration has enhanced the social bonding among the community. Around 29 per cent are migrating through social relation as a school friends neighborhood friends and caste linkages. Another 71 per cent migrate through labour contractors. The migrant prefers to migrate under a socially connected labour contractor, and they migrate in a group under one contractor. This social connection gives the confidence to migrate far from their home. The socially connected persons are helpful at the time of contingency of money, health in the destination place. This social bonding in the destination also extends to their native place. The migration has a positive impact on social capital. The improvement in social capital through interpersonal relationship is required to manage the uncertainty and risk. The migration system is full of uncertainty of getting employed and risk of stable income and health in the destination place. The social capital or relationship is another way to manage the uncertainty and risk at a personal level.

[33] Joint family means the married couple living with their parents.

Table 5.12: - Family relation among migrant and non-migrant households across survey districts, social and land holding groups

Variable	Category	Migrant HH		Non-Migrant HH		All Households	
		Unitary Family	Joint Family	Unitary Family	Joint Family	Unitary Family	Joint Family
District	Balangir	53.7	46.3	67.8	32.2	59.6	40.4
	Baleswar	55.2	44.8	64.6	35.4	60.5	39.5
	Ganjam	47.4	52.6	62.8	37.2	53	47
Social Group	ST	54.4	45.6	74.3	25.7	62	38
	SC	51.6	48.4	59.8	40.2	54.8	45.2
	OBC	54.5	45.5	67.7	32.3	61.3	38.7
	Others	30.4	69.6	61.1	38.9	49.2	50.8
Land Holding Group	LL	53.8	46.2	74.2	25.8	61.6	38.4
	MF	57.8	42.2	65.0	35.0	60.5	39.5
	SF	48.9	51.1	69.2	30.8	59.8	40.2
	MDF	24.1	75.9	52.1	47.9	41.6	58.4
	LF	33.3	66.7	58.6	41.4	50.0	50.0
All HH		51.7	48.3	65.1	34.9	57.8	42.2

Source & Note- same as Table 5.1

5.3.5 Migration impact on Livelihood

Livelihood includes all five-capital financial, physical, human, social & environmental capital. In the perspective of environmental capital, most studies of migration impact on environment concluded that migration decreases environmental dependency. Instead, the migration is a coping strategy for climate change adaptation strategies (Singha, Rahmana, Srinivas, & Bazaz, 2018); (Jha, Gupta, Chattopadhyay, & Sreeraman, 2018). Our study does not include migration impact on environmental capital. We have investigated the migration impact on rest four capital. The impact of migration on each capital is discussed above in details. Most capital indexes are significantly higher among the non-migrant than the migrant households. We have combined the Financial, Physical and Human Capital indexes through PCA analysis and constructed a Livelihood capital Index (LCI). The comparison of LCI among migrant and non-migrant households through ATE is presented in Table 5.12. The LCI is also higher among the non-migrant than the migrant households across the socioeconomic-geographical groups, except small and medium farmers in land holding groups.

The study analyses the difference in LCI among geographical and social groups (see Appendix 5, Table 15). We found that the LCI of Migrant and non-migrant households is significantly differ among survey districts and social groups. The LCI of migrant, non-migrant and all households is significantly higher in Baleswar than Ganjam and Balangir districts. The LCI of

migrant, non-migrant and all households increases with an increase in social status. The significant difference in LCI among migrant and non-migrant is due to the migration and socio-geographical differences. The migrant households have used their remittance to maintain the current living condition in their origin place. The LCI comparison between migrant and non-migrant households suggests that after remittance income; the migrant cannot enhance their living condition than the non-migrant households. The migration is not improving living condition; rather, it subordinate to sustain the livelihood in the current situation.

Table 5.13: - Livelihood Capital Index and ATE of migration across survey district, social and land holding group.

Variable	Category	Migrant	Non-Migrant	ATE {(M-NM) =0}	All HH
District	Balangir	-1.242	-0.631	-0.611*** (0.148)	-0.984
	Baleswar	0.483	0.94	-0.457** (0.143)	0.742
	Ganjam	0.088	0.458	-0.37** (0.161)	0.222
Social Group	ST	-1.037	-0.396	-0.641** (0.239)	-0.793
	SC	-0.256	0.035	-0.291** (0.146)	-0.144
	OBC	-0.126	0.341	-0.467** (0.17)	0.113
	Others	0.798	1.766	-0.976*** (0.250	1.39
Land Holding Group	LL	-0.487	-0.069	-0.418** (0.181)	-0.326
	MF	-0.490	-0.223	-0.267*(0.146)	-0.389
	SF	-0.089	0.382	-0.47* (0.254)	0.163
	MDF	0.844	1.178	-0.334 (0.261)	1.052
	LF	0.913	1.555	-0.643 (0.451)	1.336
All HH		-0.269	0.327	-0.596*** (0.102)	

Source & Note- Same as table 5.6

5.4 Conclusion

This chapter has pointed out the importance of remittance among migrant households to survive in the current socioeconomic situation. The livelihood approach of migration looks at the changing condition of livelihood of migrant households due to remittance. The livelihood approach of migration argues that migration is improving the livelihood condition of migrant households (Haan De, 2002) (Deshingkar, Kumar, Chobey, & Kumar, 2006). In contrast to livelihood improvement argument, Breman states that migration is crucial to sustain the livelihood in the current situation rather than improvement in the livelihood (Breman J. , 2004); (2009); (2013). The study examines the livelihood condition of migrant through changes in financial, physical, human and social capital. It has verified the impact of migration on the livelihood condition through a two-way comparison of indicators. Firstly, it compares the migrant and non-migrant households. Secondly, it compares the economic situation of migrant households with remittance and without remittance income.

The Financial capital analysis shows the remittance is crucial to meet the minimum required consumption expenditure, at least 40 percent of the migrant households. The remittance contributes more than half of the total income among the migrant households. The average income of migrant households after adding remittance is mostly equal to the income of non-migrant households. Secondly, the study inspects access to credit facility. The access to an institutional source of credit is directly linked with the landholding, but the non-institutional source of credit depends on the creditworthiness of a borrower in the lender's eyes. We found that the migration does not improve access to an institutional source of credit. However, it certainly increases access to a non-institutional source of credit. The occupational improvement indicator shows that the remittance helps the migrant to improve their occupation to non-farm self-employed activity, but it is insignificant compared to the improvement in the non-migrant households and total number of migrants. We also construct an index of financial capital FCI. The results of ATE of migration on FCI suggests that migration is not enough to out weight the non-migrant households. Migration is crucial to maintain the current economic condition; rather than great changes in the economic situation of migrant.

The physical capital scrutinises the quality of house, purchase of land, sanitation facility, construction of house, cooking fuel, access to electricity and drinking water. Remittance is not enough to purchase land resources; only six migrant households have purchased land in the last ten years. Around 40 percent of migrant households have renovated or constructed houses compared to 35 percent of non-migrant households. If we exclude government facilitated houses; still, there are 20 percent of migrant households have renovated or constructed house. The remittance use reveals that around 10 percent of migrant use their first major part of remittance in the construction or renovation of houses. Another 15 percent of migrant have used their second major part of remittance in the construction and renovation of houses. The comparison of PCI between migrant and non-migrant suggests that the PCI of the migrant is significantly lower than non-migrant households. It suggests that the house's construction from remittance is not a great improvement in the house's condition; instead, it is the minimum required living house in the current situation. The poor are not able to meet this minimum condition of house from their origin income. The remittance is another way of filling the gap of the deficit income to construct a minimum living house.

The migration impact on human capital analysis through years of education of the working-age individual, households head, a technical educated member in the households and dropout

rate in the age group 6 to 18 years. Across socioeconomic indicators, the average years of education of migrant individual is less than non-migrant individual. The dropout rate is higher among migrant households than the non-migrant households in the age groups 6 to 14 and 15 to 18. The dropout rate in the age group of 15 to 18 is two and half times higher among the migrant households than non-migrant households. One of the main reasons for this dropout among the young child of migrant households may be to fill the labour shortage due to working individuals' migration. The migrant households have used their part of remittance in education. But still the years of education and HCI of the migrant households is significantly lower than non-migrant households.

In the understanding of social capital, migration has a positive impact on family relationship and increases the social bonding in the community. Across the socioeconomic-geographical groups, more percentage of migrant like to stay with joint family than non-migrant households. The migrant individual feels secure of their non-migrant member in the joint family system. Around 29 percent are migrating through social relationship as school friends, neighborhood friends and caste linkages. This social connection gives them confidence to migrate far from their home and also the socially connected persons are helpful at the time of coregency of money, health in the destination place. This social bonding extends to their native place also.

Further analyse among migrant households suggest that the migrant households of Balangir district are poorer than the migrant households of Baleswar and Ganjam districts. A relatively higher proportion of SC & ST households have deficit income in Balangir than Ganjam and Baleswar district. The difference in income is not only due to their socioeconomic disparity but also due to dissimilarity in the availability of resource and opportunity across survey district. The access to institutional source of credit is also significantly lower among migrant households of Balangir than the migrant households of Baleswar and Ganjam districts. So, the FCI of migrant households of Balangir is significantly lower than the counter part of Baleswar and Ganjam district; whereas the difference in FCI of migrant households of Baleswar and Ganjam district is insignificant. Similar results also found in the analysis of PCI across migrant households of survey district. The HCI and LCI of migrant households is significantly higher in Baleswar followed by Ganjam and Balangir districts.

The migrant households can meet their minimum required consumption expenditure through remittance income. The remittance income is smoothing the consumption pattern of the migrant households over the season. The LCI of the migrant households is significantly lower

than non-migrant households across survey districts and social groups. The migrant households have used their remittance to maintain the current living situation in their origin place. The LCI comparison between migrant and non-migrant households suggest that after remittance income; the migrant cannot enhance their living condition than the non-migrant households. It is concluded that the migration is not improving living condition; rather, it subordinate to sustain the livelihood in current situation.

Chapter VI

Migration Network & Pattern of Migration

6.1 Introduction

The last chapter focus on how far migration has improved the livelihood condition of the migrant. Migration is the last resort for the rural households to sustain their livelihood in current socioeconomic condition (Breman J. , 2009); (2015); (2004). In contrast to the distress migration argument, migration has a positive impact on livelihood condition of the migrant households (Deshingkar, Kumar, Chobey, & Kumar, 2006); (Deshingkar, 2010); (2017). Further, Deshingkar argues that there are minuscule of seasonal migration to the brick kiln, cane cutting is distress in nature, but the rest broader groups of migrants improved their livelihood condition (Deshingkar & Start, 2003) (Deshingkar, 2004). This study tries to understand the reason behind the diverse pattern of migration. Does this diverse pattern of migration relate to the knowledge and technical skill of migrant? What does matter in the choice of destination? In this regard, the migration process is crucial to understanding the pattern of migration and the choice of destination.

There is limited literature giving importance to the process of rural-urban migration. The Neoclassical economists have assumed free movement of the people motivated by the wage difference and income gap, even discarding any institution, like the migration network. The migration network got much importance in the recent period to comprehend the expansion and sustenance of migration process (Granovetter , 1973) (Wegge, 1998) (Haug, 2008) (Haas De, 2010). The migration creates a network between origin and destination, and the acquisition of new knowledge or wealth; return to the root on the advantageous term (Lee, 1966). The network encourages migration and indicates where the migrants should move (Winters, Janvry, & Sadoulet , 2001). The network increases the likelihood of migration by lowering the costs and risks of movement and increase the expected net returns to migration (Stark & Jakubek , 2013).

Informal employment contracts and labour relations seem to increasingly connote surplus formation through cost-cutting—that is, the surplus generated in the realm of circulation—as against formal, which may suggest a mode of surplus formation consequential to enhanced productive powers of factors and, therefore, happens in the realm of technical relations of production (Gudavarthy, 2005). In this regard, the migration networks are part of the cost-

cutting institution for the firm. In contrast to the information-sharing and risk management argument of migration network, Breman has exposed the existence of intermediary institution (middleman or labour contractor) in the migration process and also explained the reason behind the active involvement of this institution in exploitative employment of urban informal sector (Breman J. , 1993); (1996); (2013). The employees use this migrant labour because of its cheapness and control over labourers (Bharadwaj, 1994). The dominant stream of migration from Balangir and Nuapada district of Odisha to the brick kilns within and outside the states is generally through labour contractors, with families and in labour groups (Sengupta & Vijay, 2015); (Mishra, 2020) in the study of UP (Gupta, 2003); (Majumder, 2015).

6.1.1 Development of migration network

"Migrant networks are interpersonal ties that connect different actor in the process of migration; who are potential migrant, former migrants, and non-migrants in origin to destination areas through kinship, friendship, and shared community in the place of origin" (Serrat, 2017). Network connections developed form of social capital that people can gain access to employment. Once the number of migrants reaches to a critical threshold, the expansion of networks reduces the costs and risks of movement and increase the probability of migration, which further expands the networks, and so on. Over time migratory behaviour spreads outward to incorporate broader sections of the sending society (Massey, 1990) (Haas De, 2010). "*In addition to the growth of networks and the development of migrant supporting institutions, international migration sustains itself in other ways that make additional movement progressively over time, a process of cumulative causation"* (Massey, 1990). Causation is cumulative in that each act of migration alters the social context within which subsequent migration decisions are made, typically in ways that make additional movement more likely (Stark, Taylor, & Yitzhaki, 1988); (Taylor, 1992). The pioneer migrant social capital may lead to the emergence of the migration movements in a particular systemic migration movement (Bakewell , Haas, & Kubal, 2011). The probability of finding a job through social networks, relative better than other search methods. The effects of the network are more substantial for the uneducated individuals. However, the migration has a critical size above which the migration probability decreases (Wahba & Zenou, 2005). The formation and decline of migration network depend on the feedback mechanism's role in the several situation and junctures of migration system (Haas De, 2010).

6.1.2 Empirical Research on Migration network

The empirical research supports that the migration network is a crucial indicator of destination choice and migration decision. The migration network has a positive impact and motivating factor in migration decision (Wegge, 1998);(Haug, 2008). The social network increases the likelihood of migration because it lowers the cost of mobility, information and search cost to find a new job, the opportunity cost or psychic costs of leaving a familiar environment and moving to a strange setting. Once the network develops in the place of origin, migration becomes self-perpetuating because migration forms the social structure to support itself (Massey, 1990); (Massey, et al., 1993). Further, the past migrant financially helps the new migrants (Stark & Jakubek , 2013).

6.1.2.1 Migration network in India Context

The origin of particular networks of labour engaged in circular migratory streams is rooted predominantly in rural distress or lack of adequate employment at the place of origin, and the perpetuation of particular pathways of labour circulation is happening because these supply-side processes operate through personalized social networks (Gudavarthy, 2021). The study of migrant workers in Delhi found that social connection helps both financially and socially in the place of destination. The Social contact at destination not only reduces the psychological costs of resettlement by offering a sympathetic relationship during the migrant's adjustment period but also reduce monetary costs by communicating information on employment prospects and material support during the job search (Banerjee B. , 1983); (Ramesh, 2012) in a study of the female migrant worker in Tamil Nadu (Sundari, 2005). Similar results were found among the Nepali migrants in Delhi (Thieme, 2006). When the social network of migrants developed in the rural area, rural residents are likely to have more information and greater awareness about the employment opportunities of the urban centre (Banerji, 1981). The empirical analysis based on the India Human Development Survey highlights several socioeconomic factors associated with the migration decision: household income, the availability of information, and community networks in the source and destination areas (Nayyar & Kim, 2018). The domestic worker in Delhi employed through different NGOs, private agencies and religious institutions as Church (Neetha, 2003). The study from Kalahandi District of Odisha found that the social networks between the villagers and the employers strongly determine the decision of migration decision and destination. These social networks developed and sustain as they pass it generation to generation and within their families. Across

families, there is lack of information sharing of these network and contacts (Julich, 2011) in Ganjam district of Odisha (SWiFT, 2016).

In a caste-ridden society like India, the networks are developed within the caste groups. The predominant forms of employment contracts and the emerging nature of labour relations are based on modes of organizing circular migrants. These organizations are coordinated through community-based social networks. The social networks, therefore, rely heavily on existing social and cultural structures. The community relations are, in turn, entrenched in grave inequalities and relations of domination and subordination operating based on discriminatory and heterogeneous norms. The mobility is constituted by influences of uneven development having consequences for notions of subsistence, given that places of origin have varying degrees of distress.

Further, mobility has implications in terms of changes in social hierarchies and consequential new inequality of power as well as asymmetry in terms of access to authority in the place of destination (Gudavarthy, 2021, p. 147). The lack of network, lack of transportation, and discrimination operate to exclude lower caste person from formal sector job (Deshpande & Newman, 2010). The so-called higher caste person does not buy consumer goods, like Vegetables and Milk from SC households, because of practice of untouchability. Discrimination operates through the network of social relations (Breman J. , 1993); (1996); (2013) (Thorat, Mahamallik, & Sadana, 2010). The caste network and nexus play similar role in the decision of migration and job market participation. The disadvantaged castes cannot take the benefits of migration(Chandrasekhar & Mitra, 2019). Social networks strongly determine destination choice – people from a particular caste and village tend to go to the same destination and into a similar occupation (Deshingkar, Kumar, Chobey, & Kumar, 2006).

The migration streams are highly segmented. The decision and destination place of migration is largely depending on people's networks, preceding migrations and various social institutions involved in the process of migration. The migration stream segmentation means that the gains from migration are not distributed equally (Haan De, 2002). The social networks mediated access to resources, locally and away from the villages (Haan De, Brock, & Coulibaly, 2002). The demand side explanation for the high incidence of network-based labour market entry in developing countries; that the employers use employee networks as screening and encouragement mechanisms to improve the quality of recruitment. It implies a negative association between network use and the skill concentration of jobs (Iversen, Sen, Verschoor,

& Dubey, 2009). The supply-side explanation also supports the high prevalence of network-based labour market entry (Marmaros & Sacerdote, 2002).

Objective: - Most of the literature on the process of migration suggests that migration is not an independent and sudden decision of individual or households; instead, it is based on the long history of migration. Firstly, the migration network is not just an information sharing institution; it plays a crucial role (Forced factor) to supply cheap labour to the urban informal employee. Secondly, the migration network is not open to everyone. In a caste-ridden society like India, most migration networks replicate caste groups. The main objective of this chapter is to investigate the process of migration. It investigates the role of migration network in the choice of destination and occupation. Does the migration network have any impact on earnings in the destination? Secondly, it also elucidates the origin and development of different migration networks and how they are exclusionary. To understand the process and exclusionary nature of migration network, the study analyses migration history, migration pattern, migration process and destination occupation and earning of the migrant. Each section explains separately, and in conclusion, it links each section and verifies the objective and hypothesis.

6.2 Data& Methodology

6.2.1 Data source

Details about the primary survey and sample data is presented in chapter 3. The survey includes 651 sample households out of total 1906 population households. The selected sample is around 34 per cent of population households. There are 2328 working-age individuals among the sample households; 579 individuals have migrated in the last year. This chapter examines migrant individuals' information regarding the history and reason of migration, destination occupation, destination income, and remittance.

6.2.2 Methodology

The relationship between the migration network and destination occupation is to verify through regression analysis. The choice of destination occupation has six categories; brick kiln, industry, hotel & cooking, textile & tailoring, construction and other activities. These categories of activities are constructed based on occupation, quality of employment and mode of wage payment. The choice of destination occupation model followed the multinomial logistic regression model, which use to find out the probability of any migrant to engage in a specific occupation compares to the base category. The choice of destination occupation is a

multinomial dependent variable, and individual or households' characteristics are independent variables.

In multinomial logistic regression

Odds- (P/(1-P)) = (Probability of occurring / probability of not occurring)
Logit (Y) = Log of Odd- LN((P/(1-P)) = Xß +U

$$\hat{P}(X) = \frac{1}{1 + e^{-X\beta}}$$

$$\text{Odd Ratio} = \left(\text{Odd}\frac{\text{X}+1}{\text{Odd(X)}}\right) = \frac{\hat{P}(X+1)/(1-\hat{P}(X+1)}{\hat{P}(X)/(1-P(X))} = \frac{e^{(X+1)\beta}}{e^{(X\beta)}} = e^{\beta}$$

$$\boldsymbol{Pr(Y_k = 1) = e^{\beta_1 X_i}}$$
$$\boldsymbol{Pr(Y_k = 2) = e^{\beta_2 X_i}}$$
$$\boldsymbol{Pr(Y_k = 3) = e^{\beta_3 X_i}}$$
$$\boldsymbol{Pr(Y_k = K) = 1 - \sum_{k=1}^{k=5} \Pr\,(Y_k = K)\, e^{\beta_k X_i}}$$
$$\boldsymbol{=> \; Pr(Y_k = K) = \frac{1}{1 + \sum_{k=1}^{k=5} e^{\beta_k X_i}}}$$
$$\boldsymbol{Pr(Y_k = 1) = \frac{e^{\beta_1 X_i}}{1 + \sum_{k=1}^{k=5} e^{\beta_k X_i}} = a_1 + \sum_{i=1}^{j} b_i X_i}$$
$$\boldsymbol{Pr(Y_k = 2) = \frac{e^{\beta_2 X_i}}{1 + \sum_{k=1}^{k=5} e^{\beta_k X_i}} = a_2 + \sum_{i=1}^{j} b_i X_i}$$
$$\boldsymbol{Pr(Y_k = 3) = \frac{e^{\beta_3 X_i}}{1 + \sum_{k=1}^{k=5} e^{\beta_k X_i}} = a_3 + \sum_{i=1}^{j} b_i X_i}$$
$$\boldsymbol{Pr(Y_k = 4) = \frac{e^{\beta_4 X_i}}{1 + \sum_{k=1}^{k=5} e^{\beta_k X_i}} = a_4 + \sum_{i=1}^{j} b_i X_i}$$
$$\boldsymbol{Pr(Y_k = 5) = \frac{e^{\beta_5 X_i}}{1 + \sum_{k=1}^{k=5} e^{\beta_k X_i}} = a_5 + \sum_{i=1}^{j} b_i X_i}$$

The X is a matrix of the independent variables (Individual and household characteristics) and Y multinomial variable; choice of destination occupation. $\boldsymbol{\beta_1}$, $\boldsymbol{\beta_2}$, $\boldsymbol{\beta_3}$, $\boldsymbol{\beta_4}$, $\boldsymbol{\beta_5}$ are the vector of regressor coefficient of the brick kiln, construction, hotel & cooking, textile & tailoring, And other activities, respectively. The independent variables are gender, marital status, social groups, migration networks, landholding categories, origin income, age and education. The existing research explains that the socioeconomically well-off individual has a better employment opportunity than their counterpart.

Another main objective of this chapter is to analyse about; how the variation in access to migration network and destination occupation impact their destination income. The impact of

socioeconomic indicators of the migrant on destination income is regressed through GLM. There is a high correlation between average monthly destination income and remittance amount; nearly 0.85. We have taken the average monthly destination income as our dependent variable, socio-economic indicators (both individual and households) as the independent variable. The OLS regression results have heteroscedasticity problem due to categorical variables in the independent variable. The General linear model (GLM) of maximum likelihood estimation has been used in regression analysis. Maximum likelihood estimation is helpful in multivariate analysis, and it calculates each category's divergence within the group variable (Fryer & Pethybridge, 1972).

Under GLM (General linear model): $Y = X\beta + U$ (1)

$\Longrightarrow U = Y\text{-}X\beta \quad and\ U \sim N(0, \sigma^2 I)$

Likelihood function in term of U is $f(U) = (2\pi\sigma^2)^{-\frac{n}{2}} e\left(-\frac{U^T U}{2\sigma^2}\right)$

Put $U = Y\text{-}X\beta \implies f(Y, X|\sigma^2\beta) = (2\pi\sigma^2)^{-\frac{n}{2}} e\left(-\frac{(Y\text{-}X\beta)^T(Y\text{-}X\beta)}{2\sigma^2}\right)$

take log in both side

$L(\sigma^2, \beta|Y, X) = \left(-\frac{n}{2}\right)\log(2\pi) - \left(\frac{n}{2}\right)\log\sigma^2 - \left(\frac{(Y\text{-}X\beta)^T(Y\text{-}X\beta)}{2\sigma^2}\right)$ (2)

Equation 2 is a function of σ^2 and β, so, it maximizes the function with respect to σ^2 and β.

$\frac{\partial L}{\partial \sigma^2} = 0 \Longrightarrow \frac{\partial L}{\partial \sigma^2} = \left(-\frac{n}{2\sigma^2}\right) + \left(\frac{(Y\text{-}X\beta)^T(Y\text{-}X\beta)}{2\sigma^4}\right) = 0$

$\sigma^2 = \left(\frac{(Y\text{-}X\beta)^T(Y\text{-}X\beta)}{n}\right)$ (3)

$\frac{\partial L}{\partial \beta} = 0 \Longrightarrow \frac{\partial L}{\partial \beta} = \left(-\frac{1}{2\sigma^2}\right)\frac{\partial}{\partial \beta}\left((Y\text{-}X\beta)^T(Y\text{-}X\beta)\right) = 0$

$\beta = (X^T X)^{-1}(X^T Y)$ (4)

In the above model, Y represents destination income, σ is the standard error, X is the metrics of independent variables and β vector of regressor coefficient. The continuous independent variables are Years of Education, Per day working hours, Log of origin income and age. The descriptive statistics of continuous variables are presented in Appendix 6, Table 4. Most continuous variables are normally distributed except log of origin income. The log of origin income has very high kurtosis as some households have very high origin income. The categorical independent variables are gender, marital status, district wise social group, landholding categories, migration network. The frequency and percentage distribution of the independent categorical variables are presented in Appendix 6, Table 5. In categorical variables, the male member of the socially marginalized section has a higher share than their counterpart. Other than the regression analysis, this chapter has also used the cross table to show the pattern, characteristics and reason of migration, migration network, destination

occupation and earning. It has presented a line graph, column graph to illustrate the history and experience of migration.

6.3 History of Migration

Chapter 2 shows that the poor and vulnerable people have a higher chance of engaging in migration in search of alternative livelihood opportunities. The migration is something in the place of nothing for a rural household. It is found that migration is an opportunity for livelihood across social and landholding categories. How did the migration start, and how do different social groups engage in migration stream? This section explains the history of migration among survey households.

6.3.1 Households' Migration History

Households' migration history explains the period in which any member of the household has engaged in migration. Balangir and Ganjam district's Migration history reveals that a significant proportion of migrants (63.2 per cents in Balangir and 85 per cents in Ganjam) have joined from their parent's time (pre-1990 period) but around half of the migrants have joined in the recent period (post 2010) in Baleswar district (see Table 6.1).

Table 6.1 Percentage distribution of Migration History across survey districts, social groups & landholding categories

Variable	Category	Parents' Generation	1990-2000	2000-2010	2010 to 2017
District	Balangir	63.2	6.2	11.4	19
	Baleswar	16.1	7.2	28.6	48.2
	Ganjam	84.9	4.8	5.8	4.4
Social Group	ST	55.3	4.8	11.7	28.1
	SC	73.4	2	10.2	14.1
	OBC	51.5	11	14.6	22.6
	OC	40.7	7.4	29.6	22.2
landholding categories	LL	71.2	1.8	10.0	17.1
	MF	59.8	9.5	12.1	18.6
	SF	64.3	5.7	12.9	17.1
	MDF	52.4	2.4	19.0	26.2
	LF	4.3	4.3	34.8	56.5
All Migrant		61	6	13.2	20.1

Source- Author's Primary Survey 2018
Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other castes/category, LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer, HH- Households.

Across social group, 73.4 per cents of SC households have an old history of migration followed by ST, OBC and OC households. More than 50 per cents of OC households have entered into

the migration in the post-2000 period, whereas around 40, 37 and 24 per cents among ST, OBC and SC respectively in the same period. Across landholding categories, 71.2 per cents of LL households have an old history migration followed by MF, SF, MDF and LF correspondingly. More than 45 per cents of MDF and 90 per cents of LF households have entered into the migration in the post-2000 period, whereas it is 27.2, 30.7 and 29.8 per cents among LL, MF and SF respectively in the same period. The socioeconomically marginalized section has an old history of migration, but the big landholding households have also entered into migration in the recent period.

6.3.2 Trend of Individual Migration Rate

The individual migration rate is presented in Graph 6.1. Around 10.5 per cents of the individual had engaged in migration in 2007-08, and it increased to 25 per cents in 2016-17. The decadal growth in the migration rate is 138 per cents. The rate of growth in migration rate was slow in the first five years, nearly 30 per cents, but it has increased by 84 per cents in the last five years. Across social group, the migration rate is highest among the ST followed by SC, OBC and OC correspondingly. The increment in the migration rate is highest among the OBC and SC social groups. Migration rate of OBC individual was 9.1 per cents in 2007-08 which has increased to 23.1 per cents in 2016-17. Migration rate of SC individual increased from10.7 per cents in 2007-08 to 26 per cents in 2016-17, with an increment of 143 per cents. The decadal increment in migration rate among ST and OC individual is nearly 107 per cents.

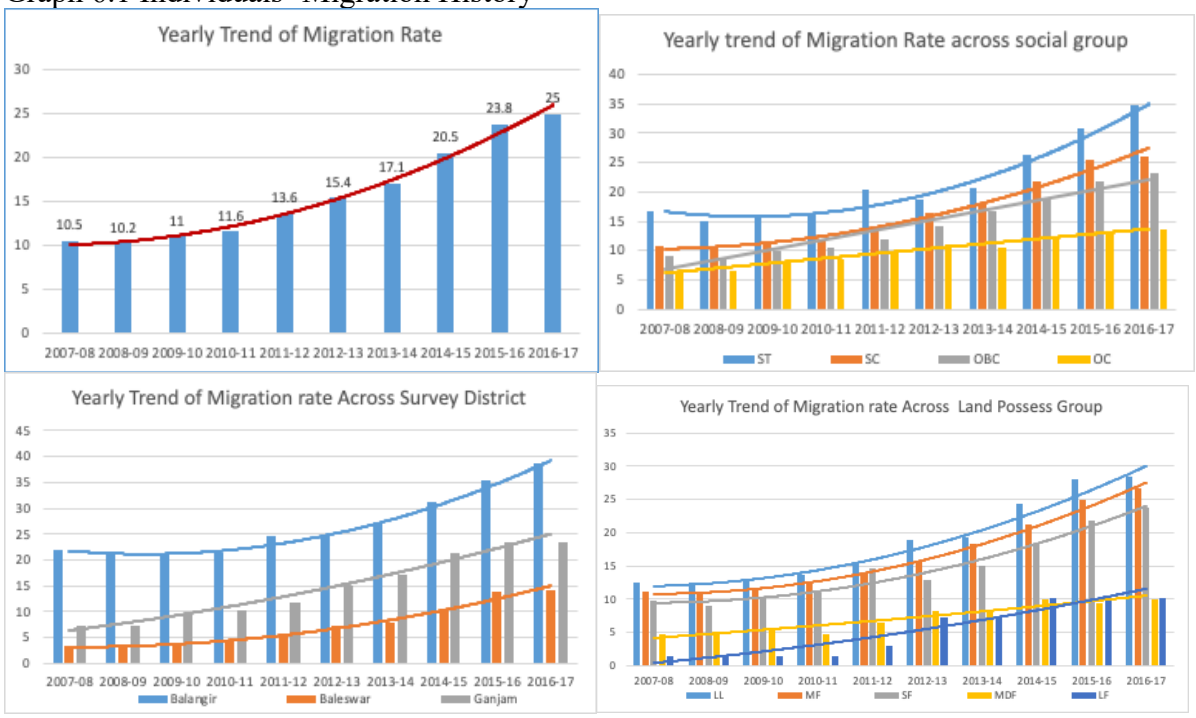
Across landholding categories, migration rate is highest among LL followed by MF, SF, MDF and LF correspondingly from 2007-08 to 2016-17. The decadal increment in the migration rate of LF is nearly 620 per cents which has increased from 1.4 per cents in 2007-08 to 10.1 per cent in 2016-17. The migration rate of LF has tribble in the last five years, which is due to the low initial migration rate at 1.4 per cents. The migration rate of LL individual has increased from 12.4 to 28.4 per cents in the same period. The migration rate had increased by 23 per cents in the first five years, and it has increased by 85 per cents in the last five years among LL individuals. Among the MF and SF individual, the migration rate has increased at 137 and 144 per cents respectively in the same period. Decadal growth in the migration rate is 112 per cents among MDF individual.

Across survey district, Balangir district has the highest migration rate, followed by Ganjam and Baleswar correspondingly. The migration rate has increased from 22 to 38.8 per cents in Balangir district. The decadal growth in the migration rate is 303 per cents in Baleswar district;

it has increased from 3.5 to 14.1 per cents. It has increased from 7.2 to 23.4 per cents, with an increment of 225 per cents in Ganjam district. Across survey district, the migration rate is growing faster in last five years than first five years.

There is a tremendous increase in migration rate from 2007-08 to 2016-17 period. The migration rate is high among the socioeconomically marginalized section of the society over the study period. The growth in migration rate is faster in last five years than first five years. This higher rate of growth in the migration rate in last five years is primarily due to the higher rate of increment in migration rate among OBC, SC and ST in social and landless and marginal farmer in landholding categories. The socioeconomically weaker section of the society has pushed the migration rate in the last five years. The LF households have joined the migration in the recent period.

Graph 6.1 Individuals' Migration History



Source- Author's Primary Survey 2018

Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other castes/category, LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer, HH- Households.

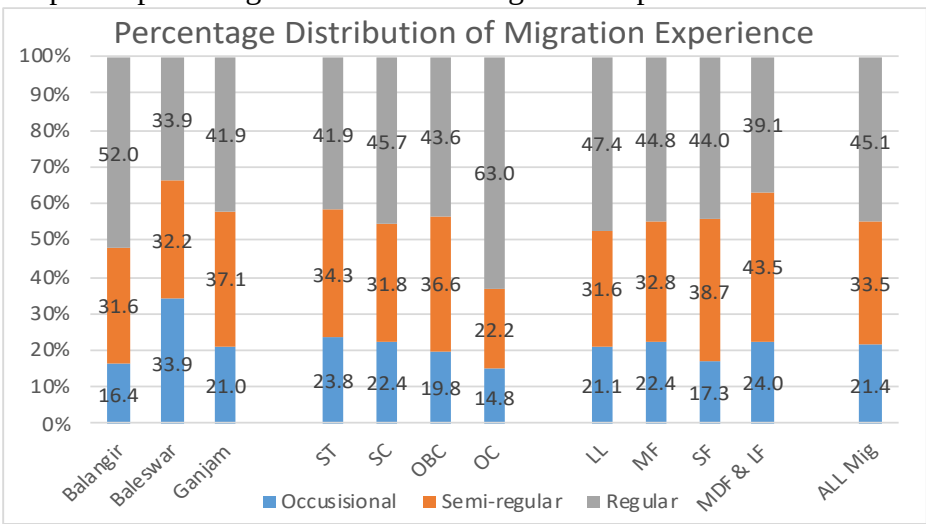
6.3.3 Individual migration experience

We have calculated the migration experience in the last ten years. In the last ten years, the individual who migrated 7 to 10 years is considered a regular migrant; the individual who migrated 4-6 years is considered a semi-regular migrant; the individual who migrated less than four years is considered an occasional migrant. The percentage distribution of migration

experience is presented in Graph 6.2. One-fifth of migrants are occasional migrant mostly migrate to cope with the environmental distress. Another one-third are semi-regular migrants who mostly migrate to manage their social requirements. Rest 45 per cents are regular migrants who mostly migrate to meet their regular consumption expenditure.

Across social groups, highest proportion of OC migrants engage in regular migration; nearly 63 per cents of OC migrants are regular migrants. It is 40 to 45 per cents among ST, SC & OBC social groups. The poor OC tries to avoid physical work in the local area and prefer to work in distant places to maintain their caste supremacy in the village. Regular migrants are low among MDF & LF group, and it is around 45 per cents among LL, MF and SF groups. Nearly 43 per cents of MDF & LF are semi-regular migrant, and it is around one-third among LL, MF & SF groups. Balangir has the highest proportion of regular migrant Across survey districts, followed by Ganjam and Baleswar districts. Exactly opposite pattern found in the proportionate share in occasional migrant among survey districts.

Graph 6.2 percentage distribution of migration experience



Source & Note- Same as Graph 6.1

The survey households' migration history suggests that around 60 per cent of migrant households have an old history of migration, and the rest 40 per cent join the migration stream gradually to meet the different socio-economic requirements. The migration trend explains that the migration rate has increased over the last ten years (2007-2017). It has increased faster among the socially marginalized section of society. The migration experience graph elucidates that nearly 45 per cent of migrants are regular migrant to meet their daily requirement. The migrants cannot generate a surplus with a long migration history; it only provides a subsistence

income. Gradually, more proportion of households depends on migration to meet their minimum requirement of livelihood.

6.4 Pattern of Migration

6.4.1 Households Migration Rate

The percentage of households engaged in migration (Households Migration Rate) is diverse across the survey household. It has defined migrant households if at least one working-age member has migrated for employment in 2016-17 (survey period November 2017-November 2018). A migrant household defined as a family migrant household if both male and female member of the household is engaged in migration and if any single-gender (Male or Female) member of the household is engaged in migrant then we define such a household as a single migrant household. The household's migration and the average number of migrant members per household are presented in Table 6.1. More than 54 per cent of households engage in migration across survey households. Out of the total migrant households, around 26 per cent are family migrants, and the rest 74 per cent are single migrants. On an average around 2 person migrates from each migrant family.

Across survey districts, the percentage of households migrate is highest in Ganjam, followed by Balangir and Baleswar districts. Nearly 63.7 per cent of Ganjam district survey households have engaged in the migration, whereas 57.7 and 43 per cent in Balangir and Baleswar districts, respectively. The family migration is highest in Balangir, followed by Ganjam and Baleswar districts. Nearly 70.7 per cent of migrant households are family migrants, and the rest 29.3 per cent are single migrant households in Balangir district. In contrast, nearly 98 per cent are single migrant households in Ganjam and Baleswar districts. The average number of members engage in migration per households is also high in Balangir district due to the high proportion of family migration.

The household's migration rate decreases with an increase in the socioeconomic status and the household's head education level. The household's migration rate is more than 60 per cent among SC & ST groups, which is the highest across social group. Around 49 per cent of OBC and 40 per cent of OC groups engaged in migration. The family migration is also highest among ST, followed by OBC, SC groups; all OC migrant are single migrant households. The average number of persons migrating per households is the highest among ST, followed by OBC, SC

and OC social groups. More proportion of socially marginalized sections have engaged in migration and also family migration.

Table 6.2 Household's migration rate, average number of migrant members per household migrating across social groups, landholding categories, educational groups, occupational groups, survey districts.

Variable	Category	Percentage of HH engage in migration		Percentage of HH have single migration	Percentage of HH have family migration	Average number of migrant members per HH
		Yes	NO			
District	Balangir	57.7 (123)	42.3 (90)	29.3 (36)	70.7 (87)	2.4
	Baleswar	43.0 (96)	57.0 (127)	97.9 (94)	2.1 (94)	1.2
	Ganjam	63.7 (137)	36.3 (78)	97.8 (134)	2.2 (3)	1.4
Social group	ST	62.0 (57)	38.0 (35)	45.6 (26)	54.4 (31)	1.9
	SC	61.5 (155)	38.5 (97)	82.6 (128)	17.4 (27)	1.6
	OBC	48.8 (121)	51.2 (127)	71.9 (87)	28.1 (34)	1.7
	OC	39.0 (23)	61.0 (36)	100.0 (23)	0.0 (0)	1.2
landholding categories	LL	61.6 (106)	38.4 (66)	78.3 (83)	21.7 (23)	1.6
	MF	61.7 (161)	38.3 (100)	69.6 (112)	30.4 (49)	1.7
	SF	46.4 (45)	53.6 (52)	71.1 (32)	28.9 (13)	1.7
	MDF	37.7 (29)	62.3 (48)	86.2 (25)	13.8 (4)	1.4
	LF	34.1 (15)	65.9 (29)	80.0 (12)	20.0 (3)	1.7
Household Head Education group	Illiterate	60.7 (82)	39.3 (53)	57.3 (47)	42.7 (35)	2.0
	Primary & below	62.7 (193)	37.3 (115)	74.1 (143)	25.9 (50)	1.7
	Middle & Secondary	45.6 (68)	54.4 (81)	91.2 (62)	8.8 (6)	1.2
	Higher secondary and above	22.0 (13)	78.0 (46)	92.3 (12)	7.7 (1)	1.1
HH type	Self Employed in Agri	58.6 (173)	41.4 (122)	78.6 (136)	21.4 (37)	1.6
	Agricultural Labour	83.9 (104)	16.1 (20)	57.7 (60)	42.3 (44)	2.0
	Non-agricultural Labour	37.6 (32)	62.4 (53)	84.4 (27)	15.6 (5)	1.5
	Other (Self-employed)	28.3 (39)	71.7 (99)	94.9 (37)	5.1 (2)	1.3
All HH		54.7 (356)	45.3 (295)	74.2 (264)	25.8 (92)	1.7

Source & Note[1]: - Same as Table 6.1; Note[2]: -The value inside the parenthesis () explains the number of households.

Across landholding categories, the household's migration rate is oppositely associate with landholding categories. Nearly 61.6 per cent of landless households engage in family migration, followed by marginal, small, medium and large farmer groups. The family migration

rate is highest among the marginal farmers, followed by the small, landless, medium and large farmer groups.

The educational qualification of the household head is another variable to explains the household characteristic. More than 60 per cent of illiterate and up to primary educated household's head have engaged in migration, and it is 45.6 and 22 per cent secondary and higher secondary & above educated household's head groups, respectively. The family migration rate is higher among the lower educated household head. The household's migration rate and family migration rate are the highest among the agricultural labourer households, followed by self-employed in agriculture, non-agricultural labour, self-employed and other household types.

6.4.2 Individual migration rate

The percentage of individuals engaged in migration out of the total working-age individuals is called an individual migration rate. The individual, male and female migration rate are presented in Table 6.3. The individual migration rate followed the same pattern as the household's migration rate across survey districts and social and landholding categories. Out of total working-age individuals, 24.9 per cent have engaged in migration. The individual migration rate of male is nearly three times higher than the female. The male migration rate is 36 per cent, whereas the female migration rate is just 12.6 per cent. Across survey districts, Balangir district has the highest individual migration rate, followed by Ganjam and Baleswar districts. Around 42 per cent of working-age male have engaged in migration in Ganjam and Balangir districts, and it is 25.5 per cent in Baleswar district. The female migration rate in Baleswar and Ganjam districts is just 1 per cent each, and it is 34.2 per cent in Balangir district. The male and female members of the migrant household engage in the migration in Balangir, but single male members participate in Ganjam and Baleswar districts' migrations.

The Individual migration rate across social and landholding categories followed the same pattern as the household's migration rate. The socioeconomically marginalized sections have a higher individual, male and female migration rate than their counterpart. Across education group, a higher proportion of primary and middle educated have engaged in migration, followed by below primary, illiterate, secondary and higher secondary & above educated individuals. The male migration rate also has the same pattern as the individual migration rate, but the female migration rate decreases with an increase in education qualification. Across occupational groups, a higher proportion of unemployed engages in migration, followed by

labourer and farmer groups. The same is found among the male person, but the female migration rate is the highest among the labourer group.

Table 6.3 The individual migration rate across survey districts, social groups, landholding categories, educational groups, occupational groups

Variable	Category	Percentage of individual engage in migration		Percentage of male engage in migration	Percentage of female engage in migration
		Yes	NO	Yes	Yes
District	Balangir	37.9 (275)	62.1 (451)	41.6 (149)	34.2 (126)
	Baleswar	14.5 (118)	85.5 (693)	25.5 (113)	1.4 (5)
	Ganjam	23.5 (186)	76.5 (605)	41.9 (182)	1.1 (4)
Category	ST	34.5 (105)	65.5 (199)	40.6 (63)	28.2 (42)
	SC	26.3 (245)	73.7 (687)	40.4 (205)	9.4 (40)
	OBC	22.6 (202)	77.4 (690)	32 (149)	12.4 (53)
	OC	13.5 (27)	86.5 (173)	25 (27)	0 (0)
Landholding categories	LL	28.2 (171)	71.8 (435)	42.2 (139)	11.6 (32)
	MF	29.1 (269)	70.9 (654)	40.4 (195)	16.8 (74)
	SF	21.1 (72)	78.9 (270)	28.7 (52)	12.4 (20)
	MDF	14.5 (42)	85.5 (247)	24.8 (37)	3.6 (5)
	LF	14.9 (25)	85.1 (143)	22.3 (21)	5.4 (4)
Education group	Illiterate	18.0 (85)	82.0 (387)	21.1 (32)	16.6 (53)
	Below Primary	26.5 (122)	73.5 (339)	36.9 (80)	17.2 (42)
	Primary	32.5 (134)	67.5 (278)	52.8 (114)	10.2 (40)
	Middle	29.8 (171)	70.2 (403)	40.7 (154)	8.7 (17)
	Secondary	20.0 (42)	80.0 (168)	33.1 (42)	0.0 (0)
	Higher secondary and above	12.6 (25)	87.4 (174)	15.2 (22)	5.6 (3)
Occupation	Self Employed in agriculture	17.7 (75)	82.3 (349)	19.0 (71)	8.0 (4)
	Agricultural Labour	40.5 (124)	59.5 (182)	64.9 (74)	26.0 (50)
	Non-agricultural labourer	30.7 (47)	69.3 (106)	29.7 (43)	50.0 (4)
	Regular wage Earner (private)	56 (102)	44.0 (80)	57.9 (99)	27.3 (3)
	Unemployed	69.4 (154)	30.6 (68)	87.1 (148)	11.5 (6)
	Other	7.4 (77)	92.6 (964)	3.4 (9)	8.7 (68)
All		24.9 (579)	75.1 (1749)	36.0 (444)	12.4 (135)

Source & Note[1]: - Same as Table 6.1; Note[2]: - The value inside the parenthesis () explains the number of working-age individuals.

6.5 Analysis regarding migrant

The previous section explains the pattern and history of migration. First, we investigate who engage in migration, followed by households' migration history and the individual migration experience. This section will intensify the analysis among the migrant individuals. We investigate the origin and development of the major migration stream and the impact of migration network on diverse destination choice and remittance income.

6.5.1 Basic Characteristics of Migrant Individual

The primary characteristics as age, gender and education are presented in Table 6.4. The sex ratio of migrant individual suggests that nearly three-fourth are male and one-fourth female migrants. Nearly equal proportions of male and female engage in migration in Balangir district, whereas only male members migrated in Ganjam and Baleswar districts. Across Social groups, the proportion of female migration is the highest among ST followed, by OBC and SC groups; Only male members migrated from OC group. Across landholding categories, the proportionate share of the male and female migration does not have any specific pattern. The proportionate share of male migration lies between 72 to 82 per cent, and female migration lies between 17 to 25 per cent across landholding categories. The average age of the migrant is nearly 30 years—it is similar across socioeconomic groups.

Table 6.4 Basic characteristics of migrant individual across survey districts, social groups, landholding categories.

Variable	Category	Gender		Age	Education group						Year of Education
		M	F	Mean	Illiterate	Below Primary	Primary	Middle	Secondary	Higher Secondary & Above	Mean
District	Balangir	54.2	45.8	31.8	29.5	29.5	21.8	12.4	6.9	0.0	4.9
	Baleswar	95.8	4.2	29.1	1.7	12.7	17.8	43.2	12.7	11.9	9.3
	Ganjam	97.8	2.2	28.6	1.1	14.0	28.5	46.2	4.3	5.9	8.5
Social Group	ST	60	40	31.6	31.4	31.4	21.9	11.4	3.8	0.0	4.4
	SC	83.7	16.3	29.7	11.4	18.8	25.3	34.3	7.3	2.9	7.2
	OBC	73.8	26.2	29.7	11.9	20.3	22.3	30.7	8.9	5.9	7.5
	OC	100	0	33.0	0.0	7.4	14.8	48.1	7.4	22.2	10.2
Landholding categories	LL	81.3	18.7	29.7	10.5	25.7	26.9	28.1	7.0	1.8	6.8
	MF	72.5	27.5	30.8	20.8	17.8	21.9	31.2	5.2	3.0	6.5
	SF	72.2	27.8	29.8	11.1	25.0	23.6	26.4	9.7	4.2	7.1
	MDF	88.1	11.9	30.0	0.0	19.0	23.8	35.7	9.5	11.9	8.8
	LF	84.0	16.0	28.5	12.0	16.0	8.0	20.0	20.0	24.0	9.6
All migrant		76.7	23.3	30.2	14.7	21.1	23.1	29.5	7.3	4.3	7.0

Source & Note[1]: - Same as Table 6.1; Note[2]: - M- Male, F- Female

Nearly 30 per cent of the migrant are middle school educated and 23 percent are primary school educated, another 21 per cent migrants are below primary school educated, 14.7 per cent are illiterate and rest 11.6 per cent are secondary and higher secondary & above educated. Across survey district, nearly 70 per cent of the migrant come under illiterate and primary education groups in Balangir district, whereas nearly 73 and 88 per cent in Baleswar and Ganjam districts, respectively. The average year of education is seven years among all migrant, and it is five

years in Balangir, 9.3 years in Baleswar and 8.5 years in Ganjam districts. Across social and landholding categories, proportion share of low educated migrant decreases with an increase in the socioeconomic status. The average years of education among migrant individual increases with an increase in socioeconomic status.

The gender and education of the migrant individual widely diverge across the socioeconomic and geographical location. Lower educated, family migration stream dominates in Balangir, but little higher educated and single male migration stream dominates in Baleswar and Ganjam district. Lower educated and family migration stream dominates among socially marginalized groups, but little higher educated and single male migration stream dominates among OC group.

6.5.2 Reasons of Migration

The study also investigates two major reasons of migration for each migrant. The first migration reason is presented in Table 6.5, and the second migration reason in Appendix 6, Table 1. Around 75 per cent of migrant's report that the first major migration reason is repayment of debt and regular consumption expenditure. Another 18 per cent have migrated due to the lack of employment in the local region. Most migrants have migrated due to the push factors which includes repayment of debt, consumption expenditure and lack of employment opportunity.

Table 6.5 First migration reasons across survey districts, social groups, landholding categories

Variable	Category	Repay debt	Regular Consumption Exp	Social Expenditure	Lack of Employment	Other reason
District	Balangir	45.3	36.9	5.5	10.2	2.2
	Baleswar	23.5	44.3	2.6	25.2	4.4
	Ganjam	37.3	35.1	2.2	24.9	0.5
Social Group	ST	47.1	33.7	6.7	11.5	1
	SC	30.7	51	2.5	14.9	0.8
	OBC	46.5	25.2	4.5	19.3	4.5
	OC	11.1	29.6	0	59.3	0
Landholding categories	LL	27.1	59.4	2.9	9.4	1.2
	MF	45.5	34.2	4.1	14.3	1.9
	SF	45.1	26.8	5.6	21.1	1.4
	MDF	38.1	14.3	0	45.2	2.4
	LF	20	0	8	60	12
All migrant		38.3	37.8	3.8	17.9	2.1

Source & Note- Same as Table 6.1

Across the socioeconomic and geographical groups, debt repayment and regular consumption expenditure dominate the first migration reason, except OC in social and MDF and LF in landholding categories. Around 60 to 70 per cent of OCs in the social and MDF and LF in landholding categories to report that the lack of employment is the first migration reason. The regular consumption expenditure also dominates in the second major migration reason, followed by the lack of employment, repayment of debt, other reasons and social expenditure correspondingly across the socioeconomic indicators.

6.5.3 Choice of Destination Places

The choice of destination place differs across migrant individuals. The choice of destination states is presented in Table 6.6. India has a federal structure with various political party governing in different states. These political parties are first concerned about their respective state's population for their vote politics. The interstate migrant labour does not have any political power and the pressure group to support them in the destination. We have found that around 86 per cent of migrants have migrated outside the origin states (i.e. Odisha), and only14 percent have migrated within the state border. Out of these 86 per cent of interstate migrant labourer, 52 percent have migrated to the southern states like Andhra Pradesh, Telangana, Tamil Nadu and Karnataka, and another 24 percent have migrated to Maharashtra and Gujarat and rest 10 percent have migrated to other states.

The choice of destination place is widely diverse across socioeconomic and geographical groups. Interstate migration is a dominant pattern of migration across survey districts. The interstate migration is the highest among the migrant labourer of Ganjam, followed by Baleswar and Balangir district correspondingly. Nearly 82 per cent migrant of Balangir district have migrated outside Odisha and 18 per cent within the state border. The interstate migration rate in Ganjam and Baleswar districts are 87 and 93 per cent respectively. Among the 82 per cent of the interstate migrant labourer of Balangir district, 79 per cent have migrated to the southern states, and the rest 3 per cent migrate to other states. Baleswar district has a diverse migration pattern; 35 per cent have migrated to the southern states, and another 31 per cent to Maharashtra and Gujarat and 20 per cent to other states. The interstate migration pattern of Ganjam district shows that nearly 25 per cent have migrated to the southern states, 52 per cent Maharashtra and Gujarat, and the rest 15 per cent to other states. The destination place of interstate migrants are clearly towards the southern states from Balangir, towards Maharashtra

and Gujarat from Ganjam and the Baleswar district has skewed distribution over different states.

Table 6.6 Pattern of migration over destination place (State)

Variable	Category	Intra State	Inter State	Inter State / Outside Odisha						
				TS	AP	TN	KRT	MHA	GJ	OS
District	Balangir	18.3	81.8	25.2	35.8	4	13.5	1.5	0.7	1.1
	Baleswar	13.1	86.9	13.9	2.6	10.4	7.8	16.5	14.8	19.9
	Ganjam	7	93	4.3	1.6	12.4	7	20.5	31.9	15.1
Social Group	ST	4.8	95.2	28.8	43.3	7.7	9.6	2.9	2.9	0
	SC	20	80.1	12	10.8	12.4	7.1	11.2	10	16.2
	OBC	10.9	89.1	14.9	15.8	4	14.9	10.9	21.8	7
	OC	11.1	88.9	14.8	3.7	0	7.4	33.3	25.9	3.7
Landholding categories	LL	25.3	74.7	8.2	12.4	12.4	7.1	8.8	13.5	12.9
	MF	9.0	91.0	20.7	24.1	6.4	9.4	12.0	11.3	7.9
	SF	8.5	91.5	19.7	16.9	2.8	18.3	4.2	15.5	18.3
	MDF	7.1	92.9	11.9	11.9	7.1	16.7	9.5	33.3	11.9
	LF	12.0	88.0	20.0	8.0	12.0	8.0	28.0	0.0	32.0
All migrant		13.6	86.4	16.2	18.1	8	10.3	10.6	13.6	9.5

Source & Note- Same as Table 6.1

Interstate migration is highest among the ST migrant workers, followed by OBC, OC and SC migrant workers correspondingly. Out of total migrant workers interstate migration is 95 per cent among ST, 89 per cent among OBC and OC and 80 per cent among SC groups. Around 90 per cent of interstate migrants have migrated towards the southern states from ST group, and it is 45, 50 and 26 per cent among SC, OBC and OC groups, respectively. The interstate migration towards Maharashtra and Gujarat is only 6 per cent among ST, 21 per cent among SC, 33 per cent among OBC groups, but it is 59 per cent among OCs. A high proportion of OCs have migrated to Maharashtra and Gujarat, but a high proportion of STs have migrated to the southern states. The interstate migration pattern of SC and OBC groups are equally distributed over the destination states. Across landholding categories, choice of destination does not follow a specific pattern.

6.5.4 Choice of destination work

The occupation explains the quality of employment. Choice of destination occupation is presented in Table 6.7. We have divided the destination occupation into five categories based

on the wage payment system and hours of work (See Appendix 6, Table 2). Occupation related to the brick kiln and leave binding are mostly leased work, working more than 12-13 hours per day. The construction work is casual labour work, and work around 8 hours per day, but the uncertainty of getting regular employment. The textile & tailoring is also leased work, and spend nearly 10 hours per day. However, it is relatively lesser hard work and requires semi-skill and experience. Occupation related to the hotel work earn a monthly salary, but the worker needs to spend 9-10 hours per day. Industry workers get a monthly salary and spend nearly 8 hours in the workplace. The average earning is also diverse across occupation. The construction worker earns the highest average income per month (nearly 11000 rupees) than other activities[34]. The brick kiln and leave binding workers to earn around 5000 rupees per month, industry workers earn 10500 rupees, textile & tailoring workers earn 10147 rupees, and the hotel workers earn around 8500 rupees per month.

We have classified diverse occupations into six categories based on the quality of work and income. We found that the industry work is a better quality of employment followed by hotel, textile, construction, other activities and brick kiln. The study found that more than one-third of migrant workers are engaged in brick kiln work, and another one-fourth engage in industry activities. Third principal destination occupation is textile, followed by the hotel, construction and other activities correspondingly.

The choice of destination occupation also diverse across the socioeconomic indicators and survey districts. A significant pattern of destination occupation explains that nearly 77 per cent of migrant workers of Balangir district are working in the brick kilns. Nearly 71 per cent of migrant workers of Baleswar district are working in industry and hotel sectors, and 76 per cent of Ganjam district are working in industry and textile sectors. Another 18.4 per cent of migrant workers of Ganjam district are engage in the construction sector.

Across social groups, 77 per cent of ST migrant workers have engaged in brick kiln work. SC migrant workers are skewedly distributed over the destination occupation, but their pattern across district concentrates on a specific work. SC workers from Balangir district mostly migrate to the brick kilns and industry sector; from Baleswar, they mostly migrate to the hotel and industry sectors, and from Ganjam, they mostly migrate to the construction activity. Around 41 per cent of OBCs have migrated to brick kilns from Balangir district. Another

[34] Most of the construction worker have migrated from Ganjam to Kerala where per day wage rate is more than 700 rupees. They can easily earn 11000 rupees by working 15 days per month.

principal destination occupation among OBC migrant workers is industry and textile sectors from Ganjam district. Industry work is the dominant pattern of migration among OC workers, followed by textile sector. Across landholding groups, nearly 40 to 50 percent of marginal and small farmers migrate to brick kilns and a significant chunk of migrant workers of MDF and LF groups have migrated to industry work. The migrant pattern of landless migrants is skewedly distribute over the destination occupation.

Table 6.7 Percentage distribution of migrant over destination occupation across survey districts, social groups & landholding categories

Variable	Category	Brick Kiln	Construction	Industry	Hotel	textile & tailoring	Other
District	Balangir	76.6	1.5	11.3	0.0	0.0	10.6
	Baleswar	0.9	9.6	30.7	39.5	10.5	8.9
	Ganjam	0	18.4	42.7	2.7	33.5	2.7
Social Group	ST	76.9	1.9	16.4	0.0	1.9	2.9
	SC	19.9	14.9	29.4	15.8	11.2	8.6
	OBC	41.3	3.5	20.9	5.5	19.4	9.5
	OC	0	14.8	55.5	3.7	22.2	3.7
Landholding categories	LL	21.8	13.5	26.5	10.6	13.5	14.1
	MF	49.2	6.0	19.5	9.8	11.3	4.1
	SF	40.8	8.5	25.4	2.8	12.7	9.9
	MDF	16.7	9.5	35.7	9.5	28.6	0.0
	LF	29.2	0.0	62.5	0.0	0.0	8.3
ALL		36.8	8.6	25.3	8.7	12.9	7.6

Source & Note- Same as Table 6.1

The percentage distribution of migrants over destination occupation across the educational group is presented in table 6.8. The education level of migrant workers explains the available opportunity of employment in specific sector over the level of education. Across destination occupations, the percentage of workers migrating to the brick kilns decreases and those migrating to the industry increases with an increase in the educational group. The construction, hotel and textile activities dominated by middle educated groups. It is clear that across all occupation education is not a barrier of entry.

The diversity in destination occupations has a clear pattern over the social and geographical origin. The lower educated, socially marginalized group from Balangir district migrate to the brick kiln sector. The lower educated, OBC and OC social group from Ganjam district migrate to the textile sector. The middle educated, upper strata of society from Ganjam and Baleswar district migrate to the industry sector. Low educated, SC social group from Ganjam district have mostly migrated to the construction sector. Middle educated, SC from Baleswar district migrate to the hotel sector.

Table 6.8 Column percentage distribution of migrant over destination occupation across Educational Group

Education group	Brick Kiln	Industry	Construction	Hotel & Cooking	Textile & Tailoring	Other Occupation	All Migrant
Illiterate	33.18	2.07	2.04	4.00	0.00	20.45	14.83
Primary	54.03	25.52	57.14	42.00	50.00	40.91	44.50
Secondary	11.85	42.07	34.69	48.00	44.59	18.18	29.32
Higher secondary & Above	0.95	30.34	6.12	6.00	5.41	20.45	11.34
Colum Total	100.0	100.0	100.0	100.00	100.00	100.00	100.00

Source & Note- Same as Table 6.1

6.5.5 Remittance Income

The migration pattern and the choice of occupation have specificity across the sociographical group. The destination occupation has a direct impact on their income, working hours and remittance. The destination income, remittance, and working hours are diverse across the socioeconomic and geographical groups (see Table 6.9). There are three systems of wage payment as daily wage, monthly salary and leased work. Nearly 82 and 24.5 per cent of migrant workers of Balangir and Ganjam districts receive wage through leased work, whereas 91.2 and 58.7 per cent of migrant receive a monthly salary in Baleswar and Ganjam districts, respectively. The migrant individuals of Balangir district have worked more than 12 hours per day to earn just 5369 rupees per month averagely. On the other hand, the migrants of Baleswar district earn around 10000 rupees per month through working 9 hours per day. Moreover, the migrant of Ganjam district earns 10818 rupees per month through working around 9 hours per day. The average monthly remittance amount (including advance payment) is 3500 rupees per migrant of Balangir[35], around 6000 rupees for migrant of Baleswar and nearly 7000 rupees for the migrant of Ganjam district.

The percentage of migrants working under leased contracts has declined with an increase in social status. The percentage of migrants working with a monthly salary has increased with social status, except OBC group. The ST migrants on an average work for 12 hours per day followed by OBC, SC and OC groups correspondingly. However, their average monthly income has opposite trend. The ST migrant worker earns lower income followed by OBC, SC and OC group correspondingly. The average monthly remittance (Including Advance) amount is around 4500 rupees among ST migrant, 5500 rupees among OBC migrant, 6000 rupees

35 The advance payment is also included in amount of remittance.

among SC migrant and 7000 rupees among OC migrant. The wage payment system and monthly incomes are similar across landholding categories.

Table 6.9 System of wage payment, hours of work and income of migrant worker across survey districts, social and landholding categories.

		Wage payment system of migrant worker			hours of work per day	Total Migration Income	Average monthly income in destination	Total Remittance (Advance) Income	No of month stay in destination
Variable	Category	Daily wage	Monthly salary	leased Work					
District	Balangir	7.7	10.6	81.8	12.2	32493	5369	22115	6.0
	Baleswar	8.8	91.2	0.0	9.0	101703	9911	58895	10.1
	Ganjam	16.8	58.7	24.5	8.9	108015	10818	68416	10.0
Social Group	ST	7.7	24.0	68.3	12.0	37621	5664	26111	6.3
	SC	16.6	57.7	25.7	9.5	77976	8558	48956	8.6
	OBC	5.0	49.8	45.3	11.1	72433	8141	44674	8.1
	OC	14.8	85.2	0.0	9.0	119126	11635	71741	10.1
Landholding categories	LL	14.1	52.4	33.5	9.8	69711	7927	45297	8.3
	MF	9.8	43.2	47.0	11.0	64995	7565	40833	7.9
	SF	9.9	49.3	40.8	10.9	69086	7971	43324	7.9
	MDF	9.5	76.2	14.3	9.7	95667	10000	58131	9.1
	LF	4.2	66.7	29.2	10.3	100718	10666	56292	8.2
All migrant		10.74	48.15	41.11	10.6	69013	7924	43439	8.0

Source & Note- Same as Table 6.1

6.6 Migration network and the pattern of migration

The choice of destination place and occupation are segregated based on the sociographical location of the migrant. The average hours of work, monthly income and remittance also segregated by the sociographical location of the migrant. These segregations are problems for some migrants, enclosed with worse type migration like a brick kiln, whereas some have earned more income from migration to a better occupation like the industry sector. Why does not the brick kiln migrant move to the industry or construction sector to earn a higher income with eight hours working per day? The following section explains these segregations in migrating pattern through the migration network.

The micro factor, like households and individual characteristic, the meso factor, like social connection, migration network and the macro factor, like wage rate, gross income of a state/region matter in migration decision. Chapter 2 have presented the impact of micro and macro factor on migration decision in rural India. The meso factor like migration network is indigenous to the migration decision model. People migrate through a network connection, and when there is a network connection, more people start migrating as it decreases the transaction

cost of the migration (Massey, 1990); (Massey, et al., 1993); (Stark & Jakubek , 2013). It is challenging to find out the degree of relationship between the meso factor and migration decision. The basis of this distinction within the informal employment is not to be found strongly in technical differences represented by the educational background of workers or their skill sets required to perform the labour processes. The segregation of the social networks is explained by social compositions, levels of distress and interlocking of markets, nature of the social networks from the supply side, together with a general behaviour of units in both the sectors not to recruit local labour from the demand side (Gudavarthy, 2021). This study found that most migration is through any one source of network. So, we first try to explain the significant migration streams. Secondly, the study investigates the socioeconomic and geographical barrier to change their migration network and migration pattern.

6.6.1 Migration Network

The study found three types of networks; the labour contractor, education and social networks are actively working in the migration. The evolvement and development of each network have their own historical and social background. The employer mainly creates the labour contractor-based network to fulfil the labour demand in the requisite time. The labour contractors are intermediate agent between employer and migrant labourer. The labour contractor also earns a commission from the employer for his service[36]. The other networks are based on social bondage. The caste/kinship and locality-based network is helping towards their socially connected individual. The social network is a compact system for other caste or locality groups. The social network also includes neighbouring households in the process of migration. The education-based network is spread among the young middle educated group; one migrant helps their educated classmate or schoolmate in the migration.

Access or engross to each network is divers across socioeconomic indicator of migrant. Proportionate access to migration network across socioeconomic and geographical indicator is presented in Table 6.10. More than 50 per cent of migrant workers are migrating through the labour contractor. Another one-third migrate through the social connection, and the rest 15 per cent migrate with the help of the educational network. Across survey districts, more than 80 per cent migrants of Balangir district migrate to the brick kiln activity through the labour

[36] See active involvement of labour contractor in Brick kiln (Sengupta & Vijay, 2015); (Majumder, 2015) (Gupta, 2003). The commission to the labour contractor in cane cutting work (Breman J. , 1978); (1979); in Brick Kiln (Meher, 2015).

contractors. In Baleswar district, 55 per cent migrate through the social network to the hotel and cooking activities; another 37 per cent follow the educational network in migration to industry work. The locality and relative based networks (Social Network) are widespread among migrants of Ganjam district, followed by labour contractor and educational network.

Table 6.10 Proportionate access to Migration Network Across socioeconomic and geographical indicator

Variable	Category	Labour contractor	Educational Network	Social Network
Survey Districts	Balangir	82.5 (226)	7.7 (21)	9.9 (27)
	Baleswar	7.9 (9)	36.8 (42)	55.2 (63)
	Ganjam	30.3 (56)	13.5 (25)	56.2 (104)
Social Group	ST	76.9 (80)	10.6 (11)	12.5 (13)
	SC	44.4 (107)	15.8 (38)	39.8 (96)
	OBC	51.7 (104)	15.9 (32)	32.3 (65)
	Others	0.0 (0)	25.9 (7)	74.1 (20)
Landholding categories	Land Less	48.2 (82)	14.7 (25)	37.1 (63)
	Marginal Farmer	57.9 (154)	11.7 (31)	30.5 (81)
	Small Farmer	53.5 (38)	19.7 (14)	26.8 (19)
	Medium Farmer	19.0 (8)	21.4 (9)	59.5 (25)
	Large Farmer	37.5 (9)	37.5 (9)	25.0 (6)
Education Group	Illiterate	91.8 (78)	0.0 (0)	8.3 (7)
	Up to Primary	56.9 (145)	5.1 (13)	38.0 (97)
	Middle & Secondary	32.7 (55)	20.8 (35)	46.4 (78)
	Higher Secondary & above	20.0 (13)	61.5 (40)	18.4 (12)
All Migrant		50.8 (291)	15.4 (88)	33.8 (194)

Source & Note- Same as Table 6.1
The value inside the parenthesis () explains the number of migrant persons.

Across social group, labour contractor is widely followed among the socially marginalized sections. A higher percentage of OC migrants followed the social networks in migration. Across landholding categories, the migrants following labour contractor networks decreases, and educational networks increases with an increase in landholding categories. The percentage of migrant following the labour contractors decreases and access to the educational networks increases with an increase in education level. Access to the social network is higher among up to primary, middle & secondary educated than illiterate and higher secondary & above education level individuals.

6.6.1.1 Major Migration Network

The social and geographical variables are most critical to explain the access and development of migration networks. The percentage share of the socio-geographical groups over the migration networks is presented in Table 6.11. We found five major migration patterns based

on the socio-geographical location. Across social group, more than 80 per cent have migrated through labour contractors in Balangir district, except for some diversion of young educated migrants. Secondly, nearly 37 per cent have migrated through the educational networks, and another 55 per cent have migrated through social networks in Baleswar district. The fourth major migration network is the migration of SC/ST of Ganjam district through labour contractors. Nearly 43 per cent of the migrant from SC/ST of Ganjam district have migrated through labour contractors. The fifth major migration network is the social network which is used among migrants across social groups of Ganjam district. More than 56 per cent of migrants of Ganjam district have used the social network in their migration. These five major migration networks can be more elucidate when we subgroup them based on their destination occupation.

Table 6.11: - Percentage share of the socio-geographical groups over migration networks

Variable	Labour Contractor	Educational	Social
SC/ST/of Balangir	84.0 (142)	8.9 (15)	7.1 (12)
OBC/OC of Balangir	80.0 (84)	5.7 (6)	14.3 (15)
SC/ST of Baleswar	2.7 (2)	33.3 (25)	64.0 (48)
OBC/OC of Baleswar	17.9 (7)	43.6 (17)	38.5 (15)
SC/ST of Ganjam	42.6 (43)	8.9 (9)	48.5 (49)
OBC/OC of Ganjam	15.5 (13)	19.0 (16)	65.5 (55)
Total	50.8 (291)	15.3 (88)	33.8 (194)

Source & Note- Same as Table 6.1
The value inside the parenthesis () explains the number of migrant persons.

6.6.1.2 Major Stream of Migration

We have found six major migration streams, which are presented in Table 6.12. The first major migration stream is the migration from Balangir district across social groups migrating to brick kiln activity through labour contractors. Secondly, the migration from Baleswar district across social groups migrates to industry activity through the educational network. Third, a group of migrants also from Baleswar district across social groups migrate to hotel & cooking activity through the social networks. Fourth, migration from Ganjam district across social groups migrate to industry activity through the labour contractors. Fifth, migration from Ganjam district among SC/ST migrate to construction activity with the help of the social networks. Sixth, migration from Ganjam district among OBC/OC community migrate to textiles & tailoring activity with the help of social networks. The origin and development of each network have their historical background and social perspectives.

Around 81.3 per cent of migration elucidates through these six major migration streams, and the rest 18.3 per cent of migrant are divergent from the primary migration stream. In Balangir district, 76.6 per cent migrate under the primary migration stream, and 23.4 per cent have diverse migration patterns. Around 9 per cent of migrants of Balangir district have migrated to the industry activity through labour contractor. The low migration to industrial work among educated group of Balangir district is mostly due to wide spread of information regarding cheated by their labour contractor in non-payment of salary[37]. Some migrant also returns without any payment[38].

Table 6.12 Major Migration streams

Origin Place	Social group	Migration Network	Destination work	Percentage of Mig. To major stream	Percentage of Mig. to other than major stream
Balangir	SC/ST/OBC	Labour contractor	Brick Kiln	76.6 (210)	23.4 (64)
Baleswar	SC/ST/OBC/OC	Education	Industry	31.0 (35)	29.2 (33)
Baleswar	SC/ST/OBC/OC	Social	Hotel & Cooking	39.8 (45)	
Ganjam	SC/ST/OBC/OC	Labour Contractor	Industry	42.7 (79)	5.4 (10)
Ganjam	SC/ST	Social	Construction	18.4 (34)	
Ganjam	OBC/OC	Social	Textile & tailoring	33.5 (62)	
ALL Migrant				81.3 (465)	18.7 (107)

Source & Note- Same as Table 6.1
The value inside the parenthesis () explains the number of migrant persons.

The major migration stream contributes 71 per cent of the migrant in Baleswar district. Out of them, 31 per cent migrate to industrial activity through the educational network. Another 40 per cent migrate to the hotel & cooking activity through the social network. The migration to the hotel & cooking activity starts from SC group; recently, some OBC's (Mostly broader Yadav Caste) join them. Rest 29 per cent migrate to different activity in Baleswar district.

In Ganjam district, Three major migration streams control 95 per cent of migrants. The migration to textile & tailoring activity is an old migration stream among the OBC and OC social group through the social network. It comprises 33.5 per cent of migrant worker of

[37] According to ISMW Act, it is the responsibility of employee to pay salary of the worker if the labour contractor cheated them. But most of the labourer employee in contractor basis in outsourcing activity; they don't know the employee even. On the other hand, The Brick kiln migrant receive advance before migration, so the cheating of payment won't rise in Brick kiln.

[38] we have also asked that what policy changes support them to migrate industrial activity. Most of the respondence argues for part of advance payment or strong government intervention in support payment for their work.

Ganjam[39]. People are recently changing their migration pattern from textiles & tailoring to other industrial activity due to lack of demand for labour in textile & tailoring activity [40]. Recently, there is a development of migration to industrial activity through labour contractor. It constitutes 42.7 per cent of migrant worker of Ganjam district. Migration of the SC community to the construction work (Mostly to Kerala) through the social network is the third significant migration stream, which constitutes 18.4 per cent of total migrant of Ganjam district.

6.6.1.3 Mobility across Migration Stream

The migrant network confines the migrant group in a specific activity even the migrant has the quality to engage in a better job. Mobility from one migration network to other is not happening smoothly. The educational level of the major migrant streams and other migrant is represented in Appendix 6, Table 3. The destination occupation does not demand any specific level of education and skill. The education level of brick kiln migrant is the lowest compared to all other groups. The average years of education are highest among the migrant to industry activity followed by hotel, textile and construction activities. However, the education is not far different, that the brick kiln migrant cannot join construction and textile activity (Gudavarthy, 2021). There are socio-geographical obstacles to change the migration streams. Most migration through the labour contractor is open for everyone, but the worker confidence over the contractor matters in the migration through the labour contractor. The uncertainty about the wage payment is a crucial factor in the migration through the labour contractor. The social and education networks are confined to the socio-geographical groups.

Secondly, each pattern of migration leads to the corresponding development of different institutional structure. The credit market structure (Explain in Chapter 5) is different in Balangir and the coastal districts. Migrant of Balangir district mostly borrow from noninstitutional money lender (private money lender), in which they borrow lumpsum amount and repay in lumpsum (principle plus around 10 per cent monthly interest rate). In brick kiln activity, the migrant receives the advance amount in lumpsum, which help them to repay debt.

[39] This 35 percent is results of changing pattern of labour migration. In 2007, The informal estimates suggest that there are around 900,000 Oriya migrant workers in Surat, out of them 600,000 are from Ganjam district alone (UNDP, 2007).

[40] Breman found that the unlimited absorption capacity of urban informal sector is a Myth. He also sees the decline or maturity of labour demand in textile industry of Gujarat (Breman J. , 2009).

The migrants from coastal districts mostly borrow from microfinance institutions (MFI), where they receive credit in lumpsum and repay on monthly instalment basis. The migrants from coastal districts primarily get engaged in mostly industry, hotel and construction activities, earn income on monthly (some are in weekly) basis in the destination, which helps them to repay the instalments of MFI credit[41].

Thirdly, the origin of each migration network is linked to their historical lineage. It is easy to engage in a well set up migration network in a specific socio-geographical region. However, changes from one established socio-geographical migration network to a different migration network are very tricky from economic and behavioural perspectives. Newly engage in migration network, people have an uncertainty of income, i.e., there is uncertainty of employment opportunity in destination, but they do not loss anything (Income) in origin (as migration is mostly due to push factor like lack employment opportunity). The migration to a different (mostly new) migration stream than their established socio-geographical migration stream has an equal risk of employment opportunity in destination; simultaneously, they will lose the opportunity of income which they could earn if they had migrated to an established socio-geographical migration stream. The loss-averse mentality also dissuades them to change their migration stream[42]. Nevertheless, it is very much sure that the interchanges in the migration stream are not possible without any decisive intervention from the outside[43]. The economic factor, information asymmetry, the uncertainty of wage payment, institutional structure, and behavioural set-up plays a crucial role to abstain from the mobility across migration streams. It is very much difficult to suggest any specific policy to change the migrant stream of Balangir district.

[41] But it is difficult to argue that the credit structure defines their pattern of migration. The pattern of migration is restructuring their socioeconomic institution. So, the mobility across migration stream is not easily possible, even some policies are also not effective without proper studies of these network and their interlinked institutional structure.

[42] It seriously requires some experimental research to understand and suggest a policy for the changes in migration stream. The experimental research is time taking and requires financial support. This experimental research on changes in migration stream in Balangir district is one of my future research plans.

[43] Written contract between employer and worker or may be government intervention to create alternative migration stream which could expand with time.

6.6.2 Migration Network impact on the Choice of destination Occupation and income

6.6.2.1 Migration Network Impact on the Choice of destination Occupation

In the above section, we have shown that the migration stream is confined to the socio-geographical group. This section explains how the migration network and the socio-geographical segregation of the migrants impact the access to quality of employment and income. It explores the impact of socio-economic indicators and migration network on destination occupation (sector) and income. Table 6.7 explains the distribution of migrants over destination occupation across socioeconomic indicators. Table 6.13 explains the percentage distribution of destination occupation across the migration network. More than 68 per cent of migrants, who have migrated through the labour contractors are engaged in brick kiln activity and another 16 per cent are working in different industries. Migration through the educational network is dominated by industrial activity. Migration through the social network is widely used across destination occupations, except brick kiln activity. The following regression model explains, how migration networks impact the choice of destination occupation.

Table 6.13: - Percentage distribution of destination occupation across Migration Network

Migration Network	Brick	Industry	Construction	Cooking & Hotel	Textile	Other	Total
Labour Contractor	68.38 (199)	16.15 (47)	0.69 (2)	1.03 (3)	2.75 (8)	11.0 (32)	100 (291)
Educational	0.0 (0)	61.36 (54)	3.41 (3)	11.36 (10)	13.64 (12)	10.23 (9)	100 (88)
Social	6.18 (12)	22.68 (44)	22.68 (44)	19.07 (37)	27.84 (54)	1.55 (3)	100 (194)
All Migrant	36.82 (211)	25.31 (145)	8.55 (49)	8.73 (50)	12.91 (74)	7.68 (44)	100 (573)

Source & Note[1]- Same as Table 6.1. Note[2]: - The value inside the parenthesis () explains the number of migrant persons.

6.6.2.2 Result of the multinomial regression analysis

The results of the multinomial logistic regression model on the choice of destination occupation are presented in Table 6.14. Each variable's odd ratio represents their chance of access to destination occupation concerning the base category, industry. In the gender variable, the male migrant has a significantly lesser chance of engaged in the brick kiln and other occupation and a higher chance of getting employed in the hotel & cooking activity than the industry activity. Moreover, the female migrant has a significantly higher chance of being employed in the brick kiln and other occupations and lower employment chances in the hotel & cooking activity than the industry activity. The marital status variable is insignificant across occupations. The migration network variable suggests that the migration through labour contractors has a significantly higher chance of engaging in the brick kiln work and other occupations and a lesser chance to engage in the construction, hotel & cooking activities. Employment through

education networks has a significantly lower chance of engaging in the brick kiln, construction, hotel & cooking activity, and a higher chance of engaging in industry activity.

Table 6.14 Odd Ratio of Multinomial logistic regression on choice of destination occupation (N=573)

Base category= Industry		Brick Kiln	Construction	Hotel & Cooking	Textile & Tailoring	Other Occupation
Gender	Male	0.05 (-5.0)***	0.94 (-0.06)	12.0 (18.3)***	1.38 (0.3)	0.07 (-4.1)***
	Female	1	1	1	1	1
Marital Status	married	1.92 (1.2)	1.0 (0.0)	1.74 (1.01)	1.3 (0.5)	1.72 (1.0)
	Single	1	1	1	1	1
Migration Network	Labour contractor	21.9 (5.9)***	0.03 (-4.7)***	0.06 (-4.0)***	0.12 (-4.3)	13.2 (3.8)***
	Education	0.0 (-29.1)***	0.09 (-3.5)***	0.42 (-1.75)**	0.27 (-3.1)	7.8 (2.6)***
	Social	1	1	1	1	1
Social Group	ST	14.2 (5.5)***	0.17 (-1.95)*	0.0 (-36.9)***	0.29 (-1.34)	1.62 (0.6)
	SC	1	1	1	1	1
	OBC	7.4 (4.5)***	0.28 (-2.24)**	0.6 (-1.07)	2.88 (2.7)***	4.9 (2.9)***
	OC	0.0 (-20.9)***	0.52 (-0.93)	0.16 (-1.54)	1.68 (0.75)	6.1 (1.13)
Land Group	LL	0.85 (-0.26)	0.67 (0.59)	2.77 (1.22)	1.52 (0.74)	1.9 (0.89)
	MF	1.7 (0.99)	0.45 (-1.14)	3.5 (1.55)	1.12 (0.23)	0.55 (-0.84)
	SF	1	1	1	1	1
	MDF	0.48 (-0.85)	0.3 (-1.25)	1.3 (0.23)	0.98 (-0.1)	0.0 (-20.2)
	LF	0.68 (-0.4)	0.0 (-20.3)***	0.0 (-14.9)***	0.0 (-24.3)***	0.39 (-0.73)
Age		1.01 (0.49)	1.03 (1.15)	0.99 (-0.35)	0.97 (-1.35)	1.03 (1.1)
Years of Education		0.77 (-3.4)***	0.84 (-2.34)**	0.82 (-2.5)***	0.8 (-2.8)***	0.86 (-1.86)*
Log of origin Income		0.95 (-0.56)	1.05 (0.5)	1.9 (2.6)***	1.41 (1.1)	1.18 (1.15)
Constant		2.58 (0.5)	3.2 (0.62)	0.0 (-7.1)***	0.21 (-0.49)	0.05 (-1.45)
Log pseudolikelihood		-529.5				
Wald chi2(55)		11698.2***				
Pseudo R2		0.42				

Source- Author's Primary Survey 2018

Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other castes/category, LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer, HH- Households. The figure inside the parenthesis () explains the value of t statistics. *, **, *** represents level of significance at 10%, 5% and 1% respectively.

The continuous variable age is insignificantly related to the choice of destination occupation. The predicted margin curve of age (see Appendix 6, Graph 2) varies (increase or decrease) within 0.1 probability with an increase in the age of migrant. The years of education is highly significant across destination occupation. The years of education are directly related to the probability of engaging in industry activity and negatively relates to rest of the occupations. The predicted margin curve of years of education (see Appendix 6, Graph 3) suggests that the probability of migration to industry activity increases from 0.1 to 0.5 with an increase in years

of education. The probability of migration to the brick kiln decreases from 0.45 to 0.23 with an increase in the years of education. The predicted margin curve of the log of origin income (see Appendix 6, Graph 1) suggests a significant and positive relation to hotel & cooking activity. The predicted margin to engage in the hotel & cooking activity increases from 0.0 to 0.3 with an increase in origin income.

Table 6.14 has shown that socioeconomic indicators have a significant impact on destination occupation choice. The migration network played a predetermined role in the choice of destination occupation. The diverse types of networks have developed in the corresponding patterns of migration. Labour contractor network is developed mainly in the brick kiln, and recently it has also evolved in industry activity. The quality of employment is better in industry activity, so the old migrants help their educated neighbour and schoolmates to gain access to work in industry activity. So, the education network is robust in migration to industry activity. The social network is vital in the migration to construction (mostly they migrate to Kerala to gain from high wage rate, impulses for the strong social network in construction activity), hotel & cooking and textile & tailoring activity. The hotel & cooking and textile & tailoring activity need some skills and experience that the worker learns quickly through their social network.

6.6.2.3 Migration Network impact on the destination income

How does this diverse migration pattern and migration network have impacted their income in the destination? The diversity in the destination income and remittance across socioeconomic indicators is presented in the remittance income section. We have also examined this diversity in the destination income and remittance across migration network and educational group in Table 6.15. The wage payment system suggests that 72 per cent of the migrant workers who migrated through labour contractors have been engaged in leased work. In contrast, more than 75 per cent of the migrant workers migrating through the educational and social networks have been engaged in monthly salary earning activities. The education directly associates with the percentage of migrant access to monthly salary and inversely relates to leased work.

Per day hours of work are higher among the migrant workers through the labour contractor, followed by the social and educational networks. The average monthly income in the destination is lower among the migrants through the labour contractor, followed by the social and educational network. Per day hours of work is higher among the migrants through a labour contractor, but their average monthly income is relatively lower than the migrants through the educational and social networks. It is because of the differences in the quality of occupations.

The worker, who has migrated through labour contractors engage in low paid worse quality activities mostly brick kiln, leaf binding, and some also engaged in industry activities. The migrants of educational network primarily engage in industry and hotel & cooking sectors, which are comparatively better than the brick kiln in terms of income and work hours (quality of work). The migrants using the social networks positively engage in textile, construction, industry, and hotel & cooking activity, which are also better than brick kiln activity.

Table 6.15: - Process of wage payment, hours of work and income of migrant worker across the migration networks and educational groups

Variable	Category	Wage payment system			Hours of work per day	Average destination Income	Average monthly income in destination	Total Remittance Income	No. of month stay
		Daily wage	Monthly salary	leased Work					
Migration Network	Labour Contractor	3.8 (11)	24.1 (70)	72.2 (210)	11.8	45467	6102	30842	6.8
	Education	13.6 (12)	86.4 (76)	0.0 (0)	8.7	104912	10540	58102	9.6
	Social	20.1 (39)	72.7 (141)	7.2 (14)	9.4	92870	9788	58466	9.4
Education Group	Illiterate	3.5 (3)	5.9 (5)	90.6 (77)	12.5	30291	5140	22382	5.9
	Up to Primary	12.2 (31)	41.6 (106)	46.3 (118)	11.0	62058	7511	40482	7.7
	Secondary	13.7 (23)	72.0 (121)	14.3 (24)	9.5	87093	8942	54783	9.5
	Higher secondary & above	7.7 (5)	84.6 (55)	7.7 (5)	8.8	114598	11501	61562	9.3
All Migrant		10.74	48.15	41.11	10.6	69013	7924	43439	8.0

Source & Note- Same as Table 6.1
The value inside the parenthesis () explains the number of migrant persons.

The regression results with the predicted average monthly income of the categorical variable are presented in Table 6.16. The log-likelihood value of GLM is significant, suggesting that our model is correctly specified. The regression result suggests that education is positive and significantly relates to the average monthly income. One year increase in education leads to 127 rupees increase in the average monthly income. The predictive margin curve of education (See Appendix 6, Graph 3) also implies a linear and positive relation between years of education and average monthly income[44]. Per day hours of work is negative and significantly relates to destination income. In a low paid job like the brick kiln, even working more hours is not enough to earn more income like in the case of industry workers. The predicted margin curve of the log of origin income is also negative and significantly relates to the destination income. It may be due to the very low agriculture wage rate in origin. The age of the migrant

[44] It is mostly due to the interlinkage of educational network and industry-based occupation, where the worker gets better salary. But the educational qualification is not a demand side requirement. It is basically means that the educated are better access to well paid jobs through educational network not because of better skills than their counterpart holdinging.

individual is insignificantly related to destination income. The diversity in destination income continues over long period. The difference in destination income across major stream of migration is presented in Appendix 6, Table 6.

Across categorical variable, gender is insignificant, suggesting we cannot reject the income equality between male and female individuals. The married individual is earning a higher income than a single migrant. It may be due to family responsibility among married than the single migrant. Across landholding categories, the small, marginal and medium farmer earns a similar amount of income. In contrast, landless migrant earns a lower income, and the large farmer earns a higher income than the small farmer.

Table 6.16: - GLM (ML) (ROBUST) regression on average monthly income from migration (N= 571)

Variable	Category	Coef.	predictive Average Monthly Income
Education		129.2 (3.86)***	
Per day working Hours		-222.2 (-4.84)***	
Log of Origin Income		-133.7 (-2.3)**	
Age		2.05 (0.21)	
Gender	Male	190.2 (1.1)	7928.2
	Female	0.0	7737.9
Marital Status	Married	641.3 (2.44)**	8149.6
	Single	0.0	7508.3
Landholding categories	LL	-1072.5 (-4.3)***	7352.7
	MF	-499.0 (-2.23)**	7926.3
	SF	0	8425.3
	MDF	-15.7 (-0.1)	8409.6
	LF	280.0 (0.42)	8705.3
District wise social group	SC/ST of Balangir	-3682.8 (-12.1)***	6124.6
	OBC/OC of Balangir	-3409.0 (-10.7)***	6398.7
	SC/ST of Baleswar	-1620.2 (-5.2)***	8187.5
	OBC/OC of Baleswar	-1553.6 (-2.88)***	8254.1
	SC/ST of Ganjam	606.0 (1.87)*	10413.6
	OBC/OC of Ganjam	0	9807.7
Migration Network	Labour contractor	-920.1 (-3.8)***	7409.6
	Education	157.4 (0.52)	8487.2
	Social	0	8329.7
Constant		13061.1 (9.8)***	
Adj R-squared		0.703	
Log pseudolikelihood		-5074.3***	

Source & Note- Same as Table 6.13

The average destination monthly income is also diverse across district wise social groups. We have constructed the district wise social groups variable based on the socio-geographical diversity in the migration pattern. Across survey district, the average destination income is lower among the migrant of Balangir, followed by Baleswar and Ganjam districts. The average destination income is similar across social group of Balangir and Baleswar district. The SC/ST of Ganjam earns a significantly higher income than OBC/OC of Ganjam district. A higher proportion of SC/ST of Ganjam district has migrated to Kerala's construction sector, where the wage rate is comparatively very high. The migration network also has a significant impact on destination income. The social and educational networks are active in the migration to higher wage rates and lower working hours of occupation.

6.7 Conclusion

This chapter analyses the decision and pattern of migration in Odisha. We found that landholding and social groups are not significant to explain the variation in migration decision. Migration is a crucial source to maintain the livelihood across social and landholding categories. Labour households with deficit income have a higher probability of engaging in migration for their survival. We have concluded that the high family dependence, low-income households have a higher chance of engaging in the migration to maintain their livelihood. Further, the household migration history suggests that more socioeconomically marginalised sections have an old history of migration (i.e., pre-1990 period), but the OC social group and large landholding groups have entered into migration in the recent period (i.e., post-2000). The individual migration rate has increased by 2.5 times from 2007 to 2017. The increment in the migration rate is high among the socially marginalised sections.

In the migration pattern, we have analysed their destination occupation and the factor behind this segregation in destination occupations. It has found that the lower caste has a higher chance to engage in the brick kiln, leaf binding job whereas OC migrant has a higher chance to engage in industry, textile & tailoring sector. Education played a vital role to migrate for industrial activity. The Migration network has played a significant role in the choice of destination occupation. Migration through labour contractor has a higher chance to engage in the brick kiln activity. The migration through the educational network has a higher chance to end up in industry activity. The migration through the social network has a higher probability of ending in construction if the migrant comes from SC of Ganjam district; textile & tailoring activity if

the migrant comes from OBC/OC of Ganjam; hotel & cooking job if the migrant comes from Baleswar district.

We have found six major migration streams across survey districts and social groups. These six major migration streams explain the migration pattern of 81.3 per cent of migrant persons, and 18.3 per cent of migrant are divergent from the major migration stream. These migration streams are confined to their specific socio-geographical groups. The interchanges of migration streams are not possible without any decisive intervention from the outside. There is clear segregation in the migration pattern based on the socio-geographical origin and migration network.

It has also discussed, the impact of segregation in the migration network on the destination income and remittance? We have found a significant difference in the destination income due to the diverse socio-geographical origin of migrant. The average destination income is lower among the migrant of Balangir, followed by Baleswar and Ganjam districts. The migration network also has a significant impact on destination income. The employer creates the labour contractor to supply labourer at a lower wage. The social and educational networks are active in the migration to higher wage rates and lower working hours of occupation.

Chapter VII

Conclusion

Migration Network, Migration History and Livelihood

7.1 Introduction

There are contradictory debates on migration and its impact on migrant. There is a need to move away from the negative analyses that view migration as an indication of distress and start emphasizing ways to maximise its assistances for poverty reduction (Deshingkar, Kumar, Chobey, & Kumar, 2006) (Deshingkar, 2017). In contrast to Deshingkar, Breman show that the temporary migration is tireless mobility that repeats over time. The migrant hardly rewarded by developing skilled or bringing back savings. The temporary migration is a survival strategy, to manage with the risk of unemployment and the lack of resources needed to keep the household going (Breman J. , 2009).

The migration network is efficient to tackle the current market imperfection, but in long run the social network moves towards the efficient market system (Jackson , 2010). The debate on social network has shifted from information sharing institution (Stark, Taylor, & Yitzhaki, 1988); (Taylor, 1992), to a complex personalised relation with exclusion and biased towards some other socio-geographical groups (Breman J. , 1993); (1996); (2013) (Thorat, Mahamallik, & Sadana, 2010). The socio-economic difference widening in the long run due to exclusionary nature of personalised network.

This study tries to understand the pattern of migration through secondary data (NSS 2007-08) and field investigation in rural Odisha (2017-18). The research focuses on three primary objectives; To understand the impact of micro and macro factor on migration decision. To understand the impact of migration on the livelihood conditions of migrant households across region (survey district). To analysis the origin and development of migrant network and the impact of migration network on quality of employment. Further we have analysed; What are the obstacles to shift from one migration network to another migration network?

The secondary data results suggest that the most vulnerable households have a high chance of engaged in cyclical migration in rural India. The analysis of secondary data indicates that the households from the socioeconomically marginalised section, female-headed households,

origin from low income or GSDP per capita state are higher probability of engaging in cyclical migration in rural India as well as in developed and underdeveloped states than their counterpart. The secondary data does not give information regarding livelihood, network and history of migration.

To understand the in-depth analysis of migration's impact, we directly depend on information collected in the primary survey. The sample households are selected through a multi-stage, proportionate stratified random sampling method, from nine villages located in three districts of Odisha. The survey has included 651 sample households out of total 1906 population households. So, the selected sample is around 34 per cent of population households. The results of our primary survey explain that the migrant households have used their remittance to maintain the current living condition in their origin place. The comparison of LCI (Livelihood Capital Index) between migrant and non-migrant households suggest that the migrant cannot enhance their living condition than the non-migrant households. Migration has not significantly improved the living condition of migrant households than counterpart; rather, it subordinates to sustain the livelihood in the current socio-economic condition. Secondly, The study found six major migration streams across survey district and social groups. These migration streams are confined to their specific socio-geographical groups. The interchanges in the migration streams are not visible in our survey. So, there is clear segregation in the migration pattern based on the socio-geographical origin and migration network.

This chapter elucidates major finding and compares the LCI across different migration streams and their history of migration. It will verify that whether migration will be benefited the migrant households in the long run. So, this chapter tries to understand the long-run impact of migration through analysing the migration history and changes in LCI. And finally, it has concluded with some policies suggestion.

7.2 Major findings of each objective

The major finding can divide into three groups according to the objective. The first finding explains decision of migration; the second finding elucidates the impact of migration among migrant and non-migrant households and across regions (survey Districts); and the third finding describes the origin and development of diverse streams of migration across socio-geographical groups.

7.2.1 Decision of migration

The migration decision has analysed in chapter 2. It is a long debate whether migration decision has taken at the individual or household level. The researchers from new economics of labour migration group (Stark & Bloom , 1985); (Taylor , 1999); have explained that the households as a unit take the migration decision. The recent study on seasonal migration in India (Keshari & Bhagat , 2012) has simultaneously taken individual and household characteristics at the individual level to evaluate the impact on seasonal migration. Similar research has also done on semi-permanent migrant (Parida & Madheswaran, 2011). Secondly, what are the factor matter in migration decision, whether micro or macro indicators? Chapter 2 simultaneously verifies the significance of factors in the decision of cyclical migration and who takes the migration decision.

The secondary data on employment, unemployment and migration survey of NSS 2007-08 is used for the empirical verification of migration decision's objective. The study has constructed a model on the migration decision at the households' level in the first step and the impact of individual characteristics on migration decision within the migrant households in the second step. So, we have checked that the household's decision of cyclical migration, in the first step, and the second step analyses, who is the individual migrates from the migrant households.

The NSS data have been collected through a multi-stage process, which is nested in nature. Multilevel analysis is appropriate in the nested data set. The MLLR (Multi Level Logistic Regression) model is used to verify the significance of micro and macro characteristics on migration decision. In the final MLLR model, the study has selected 67510 households at level-1, 70 regions in level-2, and 19 states in level-3. In the MLLR model, micro or households' characteristics have verified at first level or fixed effect, and the impact of macro variable as Gini of MPCE (Proxy of Inequality) and non-agricultural wage rate at region level (level two) GSDP per capita and percentage of population under BPL at the state level (level three).

The study found that micro and macro variables have a significant impact on the decision of migration. The results of MLLR model suggests that the intercept variance of Level 2 (State) and level 3 (Region) results are significant, which explain that within the states, the intercept varies 9 per cent, and within the regions, it varies 7 per cent. It also illustrates that the households from the socioeconomically marginalised section, female-headed households, origin from low income or GSDP per capita state have a higher probability of engaging in cyclical migration in rural India as well as in developed and underdeveloped states than their

counterpart. The difference across category of different variable is lesser in developed states than underdeveloped states. This result suggests that the diversification of households' income is more critical in the migration decision in developed states than the underdeveloped states.

The finding of MLLR model elucidates that the micro and macro variables have a significant impact on the decision of migration. The MLLR model specifies that the households from lower social background, low land holding, low educated, labour and vulnerable households, female headed households, origin from low income or GSDP per capita state have a higher probability of engaging in cyclical migration in rural India as well as developed and underdeveloped states. The logistics regression model on the individual aspect of migration decision suggests that a single male, higher educated migrant household member dominates the cyclical migration. The two-step indicates that the most vulnerable households have a high chance of engaged in cyclical migration in rural India. The migration dominates by low skill labourer mainly migrating to the different informal sector of the urban economy to survive their family. However, the migration as a survival strategy is significantly more prevalence in the underdeveloped state than developed states.

7.2.2 Impact of Migration

Second major finding stated the impact of migration on the livelihood situation of migrant households. It has pointed out the importance of remittance among migrant families to survive in the current socio-economic context. There is a debate that migration is improving the livelihood condition of migrant households (Haan De, 2002) (Deshingkar, Kumar, Chobey, & Kumar, 2006). In contrast to the livelihood improvement argument, Breman states that migration is crucial to sustaining the livelihood in the current situation rather than improvement in the livelihood (Breman J. , 2004); (2009); (2013). The study examines the livelihood condition of migrant through changes in financial, physical, human and social capital. It has verified the impact of migration on livelihood condition through a two-way comparison of the indicators. Firstly, it compares the migrant and non-migrant households; secondly, compares the migrant families with and without remittance income; and thirdly it has also analysed the changes in socioeconomic status of migrant households across region and social groups.

Secondary data does not provide information regarding livelihood variables. This chapter entirely depends on data collected through a primary survey in rural Odisha. Odisha states have selected for the survey because of the high rate of cyclical migration and the worse performance in the development indicator. There are thirty districts in Odisha, out of which three districts

have selected for the survey based on migration pattern and economic rank in the states. From each district, three villages have chosen for the survey. These villages are selected based on diverse population size and proportional representation of SC and ST in the total population. From each survey village, around one-third of households have selected for sample households. The sample households are selected through a proportionate stratified random sampling method; the survey village is stratified based on social and landholding groups. The survey has included 651 sample households out of total 1906 population households.

The fifth chapter's finding suggests that remittance is crucial to meet the minimum required consumption expenditure, at least for the 40 per cent of migrant households. Remittance contributes more than half of their total income among the migrant households. The average income of migrant households after adding remittance is nearly equal to the income of non-migrant households. Secondly, the study has inspected the access to credit facility. The access to an institutional source of credit directly links with the size of landholding, but the non-institutional source of credit depends on a borrower's creditworthiness. We have found that migration does not improve the access to an institutional source of credit, but it certainly increases access to the non-institutional source of credit. The occupational improvement indicator shows that the remittance helps the migrant to improve their occupation to non-farm self-employed activity, but it is an insignificant number compared to improvement in non-migrant households and the total number of migrants. We also construct an index of financial capital FCI. The ATE results on FCI suggest that the migration is not enough to out weight the non-migrant households. Migration is crucial to maintain the current economic condition rather than great changes in the economic situation of migrant.

The physical capital scrutinizes the quality of house, purchase of land, sanitation facility, house construction, cooking fuel, access to electricity and drinking water. Remittance is not enough to purchase land resources; only six migrant households have purchased land in the last ten years. Around 40 per cent of migrant households have renovated or constructed houses compared to 35 per cent of non-migrant households. If we exclude government facilitated houses, 20 per cent of migrant households have renovated or constructed houses. Remittance use also reveals that around 10 per cent of migrant use their major part of remittance in the construction and renovation of homes. Another 15 per cent of migrant have also used their second major part of remittance on construction and renovation of houses. Comparing PCI between migrant non-migrant suggests that the PCI of the migrant is significantly lower than

PCI of non-migrant households. It indicates that the construction of a house from remittance is not a great improvement in the home's condition; rather, it is the minimum required home in the current setting. The poor are not able to meet this minimum condition of house from their origin income. The remittance is another way of filling the gap of the deficit income to construct a minimum living condition of house.

The migration impact on human capital is analysed through the average years of education of working-age members, household head, a technical educated member in the household and dropout rate. Across socioeconomic indicators, the average years of education migrant individuals are less than those of non-migrant households. From migrant households, relatively higher educated members engage in migration across socioeconomic characteristics. The dropout rate is higher among migrant households than the non-migrant households in the age groups 6 to 14 and 15 to 18. The dropout rate in the age group of 15 to 18 is two and half times higher among migrant households than the non-migrant households. One of the main reasons for this high dropout among the young children of migrant households may be to fill the labour shortage due to the migration of working individuals. The migrant households have used their part of remittance in education. Only 2.5 per cent of migrant spend the first major share of remittance on education, and another 6.6 per cent of migrant spend the second major share of remittance on education[45]. Still, the years of schooling and HCI of migrant households is lower than the non-migrant households. The spending of remittance is insignificant to change in educational pattern among migrant families.

Understanding social capital has a positive impact on family relationships and increases social bonding in the community. Across the socioeconomic-geographical groups, more percentage of migrant like to stay with joint family than non-migrant households. The migrant individual feels secure of their rest member in the joint family system. Around 29 per cent of migrants migrate through social relation as school friends, neighborhoods' friends and caste linkages. This social connection gives them the confidence to migrate far from their home. The socially connected persons are helpful at the time of contingency of money, health in the destination place. This social bonding in the destination extends to their native place also.

It is evident that 40 per cent of the migrant households can meet their minimum required consumption expenditure through remittance income—moreover, the remittance income

[45] The remittance spend on health is contingency spending to revive from serious health problem. Some household also report that the health expenditure on their family member forced them to migrate.

smoothing the consumption pattern of the migrant families over the season. The LCI of Migrant households is significantly lower than the LCI of non-migrant households among survey district and social group. The migrant households have used their remittance to maintain the current living condition in their origin place. The LCI comparison between migrant and non-migrant households suggests that the migrant cannot augment their living condition after remittance income more than the non-migrant families. Migration is not improving livelihood condition; rather, it subordinate to sustain the livelihood in the current situation.

Further analysis elucidates that the among the migrant households of Balangir district are poorer than the migrant households of Baleswar and Ganjam districts. The FCI of migrant households of Balangir is significantly lower than the counter part of Baleswar and Ganjam district; whereas the difference in FCI of migrant households of Baleswar and Ganjam district is insignificant. Similar results also found in the analysis of PCI across migrant households of survey district. The HCI and LCI of migrant households is significantly higher in Baleswar followed by Ganjam and Balangir districts.

7.2.3 Migration Network

The migration network, migration history and pattern of migration in rural Odisha is explained in chapter 6. The literature on the process of migration suggests that migration is not independent and sudden decision of individual or households; instead, it is based on the long history of migration. The migration network is not just an information sharing institution; it plays a crucial role (Forced factor) to supply cheap labour to the urban informal employer. Secondly, the migration network is not open to everyone. In a caste-ridden society like India, most of the migration network replicate caste groups. The main objective of this chapter is to investigate the process of migration. It explores the role of migration network in the choice of destination occupation. Does the migration network have any impact on earnings in the destination? Secondly, it also elucidates the origin and development of different migration networks and how they are exclusionary.

This chapter primarily focuses on the migration information of these migrant individuals. It quarries migrant individuals' information regarding network, history and reason of migration, destination occupation, income, and remittance. In our primary survey, 2328 working-age individuals stay in 651 sample households; out of them, 579 individuals have migrated in the last years (before the survey year 2017-18).

From the analysis of the primary survey, we found that the households migration history suggests that more percentage of socially marginalised section and lower landholding households have an old history of migration (i.e., pre-1990). The OC social group and large landholding households have entered into migration recently (i.e., post-2000). The individual migration rate has increased by 2.5 times from 2007 to 2017. The increment in the migration rate is high among the socially marginalise section.

In the analysis of migration pattern, we have found that lower caste has a higher chance to engage in the brick kiln, leave binding job whereas OC migrant has a higher chance to engage in industry, cloth & tailoring sector. Education played a vital role to migrate for industrial activity. The migration network has also played a significant role in the choice of destination occupation. Migration through labour contractor has a higher chance to engage in brick kiln activity. The migration through the educational network has a higher chance of ending in industry activity. The migration through the social network has a higher probability of ending in construction if the migrant comes from SC of Ganjam district, cloth & tailoring activity if the migrant comes from OBC/OC of Ganjam district and hotel & cooking job if the migrant comes from Baleswar district.

We have also found six major migration streams across survey districts and social groups. These six major migration streams explain the migration pattern of 81.3 per cent of migrant, and the rest 18.3 per cent of migrant are divergent from the major migration streams. These migration streams are confined to their specific socio-geographical groups. The interchanges of migration streams are not possible without any strong intervention from the outside. So, there is clear segregation in the pattern of migration based on socio-geographical origin and migration network.

It has also discussed, how does the segregation in migration pattern impact on destination income and remittance amount? We have found a significant difference in destination income due to the socio-geographical origin of migrant. The Average destination income is lower among the migrant of Balangir, followed by Baleswar and Ganjam district. The migration network also has a significant impact on destination income. The employer creates the labour contractor to supply labourer at a lower wage. The social and educational networks are active in the migration to higher wage rates and lower working hours of occupation.

7.2.4 Long-run impact of migration

Chapter 5 elucidates that migration is not improving livelihood condition; rather, it subordinate to sustain the livelihood in the current situation. Some scholar also argues that migration will be benefited and developed an efficient market in the long run (Jackson , 2010). We check the long-run impact of migration. Secondly, the well-established migration network decreases the transaction cost of migration and uncertainty of getting a job in the urban informal sector (Stark, Taylor, & Yitzhaki, 1988); (Taylor, 1992). Further, the past migrant financial help the new migrants (Stark & Jakubek , 2013). Chapter 6 describes the working of six major migration streams across survey districts and social groups. These streams of migration are confined to their specific socio-geographical group. The interchanges in stream of migration are not possible without any strong intervention from the outside. So, there is clear segregation in migration pattern based on socio-geographical origin and migration network.

Table 7.1 Percentage distribution of household's migration history across major migration streams

Stream of Migration	Pre 1990	1990-2000	2001-2010	2011-2017	Total
Balangir – Brick kiln (1st)	65.7 (138)	7.6 (16)	11.9 (25)	14.8 (31)	100 (210)
Baleswar – Industry (2nd)	11.4 (4)	5.7 (2)	20.0 (7)	62.8 (22)	100 (35)
Baleswar – Hotel (3rd)	17.8 (8)	6.7 (3)	33.3 (15)	42.2 (19)	100 (45)
Ganjam – Industry (4th)	82.3 (65)	2.5 (2)	10.1 (8)	5.1 (4)	100 (79)
Ganjam – Construction (5th)	88.2 (30)	8.8 (3)	0.0 (0)	2.9 (1)	100 (34)
Ganjam – Cloth (6th)	87.1 (54)	4.8 (3)	4.8 (3)	3.2 (2)	100 (62)
Other than major stream	46.2 (48)	4.8 (5)	15.4 (16)	33.6 (35)	100 (104)
Total	61.0 (347)	6.0 (34)	13.0 (74)	20.0 (114)	100 (569)

Source- Author's Primary Survey 2018
Note- The value inside the parenthesis () explains the number of individuals

We have compared LCI of the migrant of major migration streams with non-migrant households. First, we analyse the migration history of the households and the migration streams. Secondly, we compare the LCI of an old migrant with non-migrant households. Household migration history is presented in Table 7.1. Balangir and Ganjam have an old household migration history compared to Baleswar district. The households of more than 60 per cent of the migrant individual have been engaged in migration since pre-1990 period. The households of more than 80 per cent of migrant individual of Ganjam district have been engaged in migration since pre-1990 period. It is 65 per cent of migrant individual of Balangir

district. They have around 30 years of migration experience. The migration stream of Baleswar district has started in post-2000 period.

We have compared the livelihood capital index among major migration streams and non-migrant households to verify the long-run impact of migration. The transaction cost of migration and uncertainty of getting an informal job is lower among the migrant of major migration streams or established network (Stark, Taylor, & Yitzhaki, 1988); (Taylor, 1992). We have found that household migration history of major migration streams of Balangir and Ganjam district is more than 30 years[46]. It is around15 years among the major migration streams in Baleswar district.

Table 7.2 Comparison of LCI among different migration stream and non-migrant individual

	1st Major stream	2nd Major stream	3rd Major stream	4th Major stream	5th Major stream	6th Major stream	Other than major stream	Non-migrant
Financial Capital	-0.619	0.599	0.340	0.143	0.054	0.041	-0.256	0.26
Physical Capital	-1.361	0.463	0.598	0.424	-0.016	0.595	-0.742	0.396
Human Capital	-1.181	0.573	0.115	-0.207	-0.367	-0.313	-0.375	0.42
Livelihood Capital	-1.300	0.682	0.433	0.144	-0.137	0.124	-0.577	0.448
difference in LCI [migration stream - non-migrant]	-1.748 *** (0.097)	0.234 (0.233)	-0.016 (0.206)	-0.304 ** (0.157)	-0.585 ** (0.236)	-0.324 * (0.175)	-1.026 *** (0.137)	

Source- Author's Primary Survey 2017-18
Note- *, **, *** represents level of significance at 10%, 5% and 1% respectively.

We have compared the LCI of each migration stream with non-migrant (see Table 7.2). The last row of table 7.2 suggests the difference between the LCI of each migration stream from the non-migrant households. The t-test of difference in LCI suggests that LCI of migrant households migrate through migration stream is significantly lower than the LCI of non-migrant households, except migration stream of Baleswar district. The LCI of migrant households who migrate through the migration stream in Baleswar district is nearly equal (insignificantly higher than) to the LCI of non-migrant households. Balangir and Ganjam district's migration stream comprises 80 per cent of migrant, and they have been migrating last 30 years. Still, their LCI is significantly lower than the non-migrant households. The 30 years period is more than long-run in social science to see the impact of migration.

[46] They may not migrate regularly, but it is certain that any member of the households had started migration in that period (pre-1990) after that they continue it.

It can be concluded that migration is contributing a significant share of the household's income. However, that income is the minimum required income to sustain the livelihood in the current situation. The long-run impact suggests that the migrant of major migration stream have still less LCI than the non-migrant households. So, migration is a process of circulation between rural and urban centers to sustain their livelihood; hardly they benefited to save, accumulate, and invest. Migration is part of the survival strategy rather than an opportunity for occupational diversification.

Table 7.3 Comparison of LCI among different migration stream

Row - Column	1st Major stream	2nd Major stream	3rd Major stream	4th Major stream	5th Major stream	6th Major stream	Other than major stream	Non-migrant
LCI	-1.3	0.68	0.43	0.14	-0.14	0.12	-0.58	0.45
1st Major stream	0	-1.98*** (0.14)	-1.73*** (0.13)	-1.448*** (0.11)	-1.16*** (0.14)	-1.42*** (0.11)	-0.72*** (0.10)	-1.75*** (0.1)
2nd Major stream	-	0	0.25 (0.23)	0.54** (0.21)	0.82*** (0.25)	0.56*** (0.2)	1.26*** (0.21)	0.234 (0.233)
3rd Major stream	-	-	0	0.29 (0.19)	0.57** (0.24)	0.31* (0.18)	1.01*** (0.19)	-0.016 (0.206)
4th Major stream	-	-	-	0	0.28 (0.21)	0.02 (0.16)	0.72*** (0.16)	-0.304 ** (0.157)
5th Major stream	-	-	-	-	0	-0.26 (0.2)	0.44 ** (0.21)	-0.585 ** (0.236)
6th Major stream	-	-	-	-	-	0	0.7*** (0.16)	-0.324 * (0.175)
Other than major stream							0	-1.026 *** (0.137)
Non-migrant								0

Source & Note: - Same as Table 7.2

The livelihood Capital Index is also significantly different within the migrant households. Table 7.3 presents the difference in LCI within the migrant households across the major stream of migration. After long-term migration to brick kiln from Balangir district (1st major stream), they are still unable to reach the livelihood index of other migrants. This lower income in destination from brick kiln (see Appendix 6 Table 6) and lower LCI of brick kiln migrant than other migration stream has put interrogation to the specific nature of migration.

7.3 Conclusion

From secondary data (NSS 2007-08) and field investigation in rural Odisha (2017-18), we investigate the importance of migration mostly among the marginalised section of society. The primary and secondary data results suggest that the most vulnerable households have a high

chance of engaging in cyclical migration to survive their family in rural India. The secondary data analysis indicates that the households from the socioeconomically marginalised section, female-headed households, origin from low income or GSDP per capita state have a higher probability of engaging in cyclical migration in rural India as well as developed and underdeveloped states than their counterpart.

The primary survey result states that migrant households have used their remittance to maintain the current living condition in their origin place. The LCI comparison between migrant and non-migrant households suggests that the migrants cannot enhance their livelihood condition than non-migrant households. The migration is not improving livelihood position; rather, it subordinates to sustain the livelihood in the current situation. The study found six major migration streams across survey district and social group. These streams of migration are confined to their specific socio-geographical groups. The interchanges in stream of migration are not possible without any strong intervention from the outside. There is clear segregation in the pattern of migration based on the socio-geographical origin and migration networks. The long-run impact suggests that the migrant of major migration streams have still significantly lesser LCI than the non-migrant households. So, migration is a process of circulation between rural and urban centers to sustain their family; hardly they benefited to save, accumulate, and invest.

7.3.1 Policy Suggestion

There are two broader findings from the analyses of migration in rural Odisha. Firstly, one-way migration is crucial to sustaining in the current situation, and it is not enough to improve livelihood. Secondly, there is clear segregation in the migration pattern based on socio-geographical origin and migration networks.

3.1.1 Smoothing the migration process: -

3.1.1.1 Government or private institution should ensure the wage paid to the worker in the destination. The employer should not leave it to the contractor.

3.1.1.2 The recruitment process should be open to everyone rather than recruiting labourer through the informal process (Network). So that, the labourer will reach the optimum point in utilization of their knowledge and the employee will get best appropriate person for the job.

3.1.1.3 The government also need to think to creates better place of living for migrant worker in urban center.

3.1.2 Improvement of livelihood in Origin

3.1.2.1 Creation of alternative employment opportunity in rural area. Enhancement of MGNREGA scheme.

3.1.2.2 Provide small loan without any assurance to invest in productive activities. Alternatively, these loans can link with the MGNREGA work.

3.1.2.3 Rural Industrialisation, the government should take the initiative to develop the small-scale industry in the rural areas, and the government should assure the marketing of their output.

3.1.2.4 Government should assure marketing and price of diverse agriculture product.

7.3.2 Limitation

3.2.1 This research based on cross section analysis, but we have lack of information to capture the changes in socio-economic factor over time.

3.2.2 It also based on all limitation which are associated with the primary survey as recall bias, universalization of conclusion.

3.2.3 This study has lack of information to comment on the gender dimension of migration.

3.2.4 It is mostly based on the temporary internal migration; it has limited idea on permanent migration within and outside India. It also doesn’t study any form of international migration.

Appendix 2 (Chapter II)

Linear prediction curve of Regression Result of Households's cyclical Migration on the different macro variables. Figures of regression of Log of GSDP per capita (Graph-1), percentage of population under BPL (Graph-2), GINI coefficient of MPCE (Graph-3), Log of Non-agricultural Wage rate (Graph-4), and Log of MPCE (Graph-5)

Figure-1

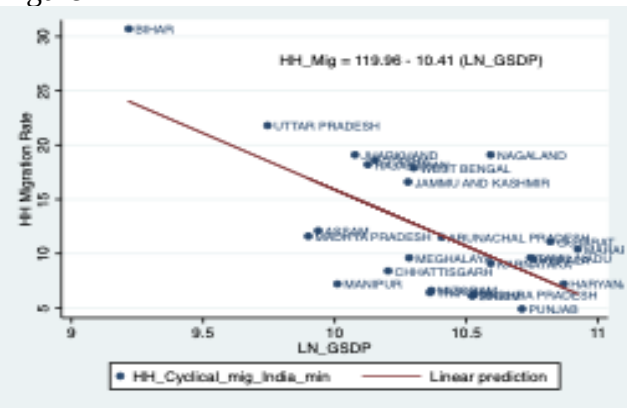


Figure-2

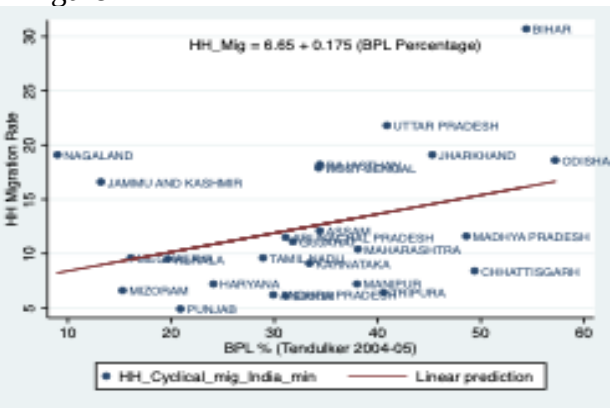


Figure-3

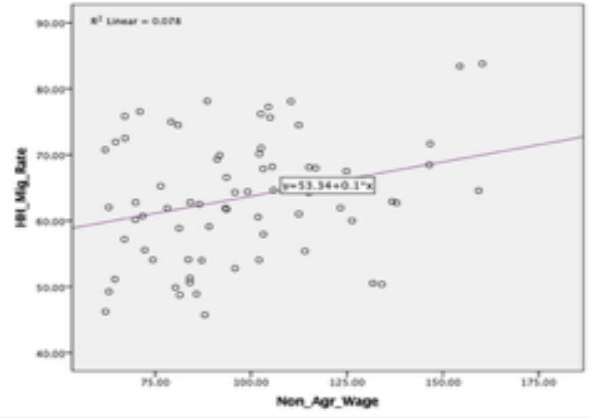


Figure-4

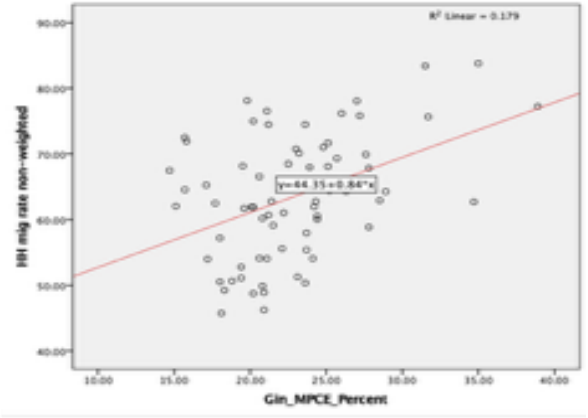


Figure-5

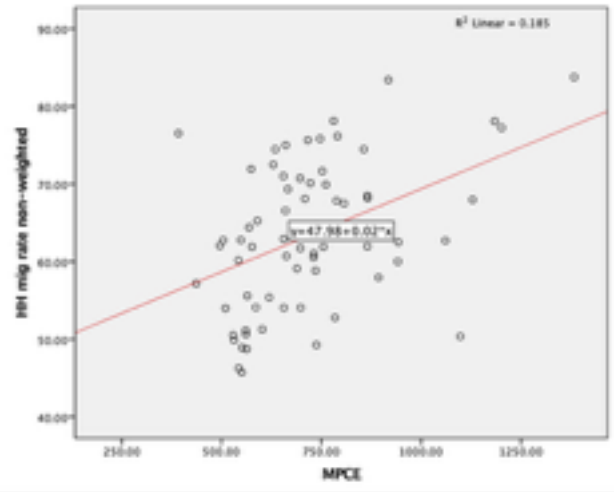


Table 1: - Frequency distribution of Categorical Variable of HH decision of migration model

Variables	Category	All India		Developed State		Underdeveloped State	
		FRQ	PD	FRQ	PD	FRQ	PD
Farm Size Group	LL	23220	34.39	8629	38.30	14591	32.40
	MF	31333	46.41	9480	42.10	21853	48.60
	SF	7888	11.68	2478	11.00	5410	12.00
	MDF	3553	5.26	1317	5.80	2236	5.00
	LF	1516	2.25	638	2.80	878	2.00
	Total	67510	100	22542	100.00	44968	100
Education of HH Head	Not literate	30486	45.16	8257	36.60	22229	49.40
	Up to Primary	17958	26.60	6480	28.70	11478	25.50
	Up to upper primary	9021	13.36	3439	15.30	5582	12.40
	secondary and above	10045	14.88	4366	19.40	5679	12.60
	Total	67510	100	22542	100.00	44968	100
HH Type	Self-employed in non-agriculture	9559	14.16	2925	13.00	6634	14.80
	Labourer	24701	36.59	8828	39.20	15873	35.30
	Self-employed in agriculture	23779	35.22	6957	30.90	16822	37.40
	Others;	9471	14.03	3832	17.00	5639	12.50
	Total	67510	100	22542	100.00	44968	100
Religion	Hinduism	56647	83.91	17852	79.20	38795	86.30
	Islam	7537	11.16	2122	9.40	5415	12.00
	others	3326	4.93	2568	11.40	758	1.70
	Total	67510	100	22542	100.00	44968	100
Social Group	SC/ST	21568	31.95	6092	27.00	15476	34.40
	OBC	28627	42.40	9299	41.30	19328	43.00
	OC	17315	25.65	7151	31.70	10164	22.60
	Total	67510	100	22542	100.00	44968	100
Sex of HH Head	Male	57469	85.13	18669	82.80	38800	86.30
	Female	10041	14.87	3873	17.20	6168	13.70
	Total	67510	100	22542	100.00	44968	100

Source- Author calculated from 64th round of NSSO (2007-08) unit-level.

Note- FRQ- Frequency, PD- Percentage Distribution (Column), ST- Schedule Tribe, SC- Schedule Caste, OBC- Other backward class, OC- other Caste, LL- Landless, MF-marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer, RI Rural India, HH- Households.

Table 2: - Descriptive Statistics of Continuous Variable of HH decision of migration model

Variables	Exp. Sign	All India		Developed State		Underdeveloped State	
		Mean	Variance	Mean	Variance	Mean	Variance
HH Size	(+)	4.73	5.67	4.40	5.00	4.90	5.92
Square of HH size	(-)	28.08	1016.34	24.33	792.21	29.96	1118.15
Age of HH Head	(+/-)	46.90	185.91	48.80	190.06	45.95	181.13
Square of age of HH Head	(-)	2386	1804440	2572	1947585	2293	1706773
LN_MPCE	(+/-)	6.49	0.23	6.70	0.28	6.39	0.18
Log of GSDP per Capita (State)	(-)	10.22	0.26	10.76	0.02	9.95	0.16
% of BPL in 2004-05 (State)	(-)	38.04	116.18	28.78	52.93	42.68	83.34
Non-Agricultural Wage (Region)	(-)	99.14	603.96	117.69	493.43	89.85	400.59
Gini of MPCE (Region)	(+)	0.2235	0.00	0.2539	0.00	0.2083	0.00

Source- Source- GSDP- EPWRF (EPW research foundation), Percentage of population under BPL-Tendulkar committee report 2004-05, All other variables are calculated from 64th round of NSSO data.

Table 3: - Wald Chi-Square Tests of individual variable effect in HH decision of migration model

Variable	LR	LR (Macro)	MLLR (all India)	MLLR Developed States	MLLR Under Developed states
(Intercept)	39.1* (0.00)	33.5* (0.00)	—	—-	__
Social Group	22.5* (0.00)	36.8* (0.00)	3.3** (0.04)	9.0* (0.00)	0.6 (0.56)
Land holding Group	215.9* (0.00)	153* (0.00)	10.9* (0.00)	12.6* (0.00)	7.1* (0.00)
HH type	219.6* (0.00)	216.6* (0.00)	30.8* (0.00)	6.9* (0.00)	42.3* (0.00)
Religion	140.5* (0.00)	23.4* (0.00)	0.2 (0.80)	2.7*** (0.07)	0.3 (0.72)
Sex of HH Head	1141.4* (0.00)	1274.3* (0.00)	78.3* (0.00)	19.5* (0.00)	72.5* (0.00)
Education of HH Head	177.9* (0.00)	172.9* (0.00)	22.4* (0.00)	12.4* (0.00)	38.5* (0.00)
HH Size	38.1* (0.00)	40.2* (0.00)	3.6*** (0.06)	0.2 (0.65)	6.73* (0.01)
Square of HH Size	0.3 (0.62)	1.1 (0.29)	0.6 (0.45)	3.1*** (0.08)	2.5 (0.11)
Age of HH Head	104.6* (0.00)	114.2* (0.00)	9.7* (0.01)	26.4* (0.00)	4.4** (0.04)
Square of age of HH Head	54.4* (0.00)	51.1* (0.00)	6.2** (0.02)	13.9* (0.00)	3.2*** (0.07)
LN_MPCE	31.2* (0.00)	15.6* (0.00)	10.2* (0.00)	5.9** (0.02)	5.5** (0.02)
Log of GSDP per Capita (State)		178.3* (0.00)	7.8* (0.00)	1.31 (0.25)	14.0* (0.00)
BPL % of BPL in 2004-05 (State)		1.6 (0.21)	0.1 (0.28)	3.8** (0.05)	0.13 (0.72)
Non-Agricultural Wage (Region)		137.2* (0.00)	1.4 (0.26)	0.9 (0.34)	9.5* (0.00)
Gini of MPCE (Region)		38.5* (0.00)	1.3 (0.62)	8.4* (0.01)	2.5 (0.12)

Source- Results of the regression analysis

Notes: - Value inside parenthesis explain the p-value. *, **, *** are explaining the 1%, 5% and 10% level of significance. PP- average predicated probability, OR- Odd Ratio.

Table 4: - Frequency of Individual Characteristics and migration rate within the migrant households in All India as well as developed and underdeveloped states

Variables	Category	Major state of India			Developed State			Underdeveloped State		
		MR	FRQ	PD	MR	FRQ	PD	MR	FRQ	PD
Usual principal Activity	Working	54.8	44539	55.4	51.9	13163	60.2	55.7	31376	53.5
	Unemployed	33.7	1541	1.9	26.2	421	1.9	35.9	1120	1.9
	Education	4.1	6543	8.1	7.0	1928	8.8	3.3	4615	7.9
	Domestic Duties	17.3	25685	31.9	19.5	5692	26.0	17.0	19993	34.1
	Others	50.0	2148	2.7	50.0	649	3.0	50.0	1499	2.6
	Total	37.5	80456	100.0	40.0	21853	100.0	36.8	58603	100.0
education	Not literate	40.3	33016	41.0	45.5	7053	32.3	39.4	25963	44.3
	Up to Primary	42.1	19644	24.4	47.6	4963	22.7	40.7	14681	25.1
	Up to upper primary	33.0	13259	16.5	37.3	4038	18.5	31.6	9221	15.7
	secondary and above	27.1	14537	18.1	26.6	5799	26.5	27.3	8738	14.9
	Total	37.5	80456	100.0	40.0	21853	100.0	36.8	58603	100.0
Marital status	Never Married	22.0	20034	24.9	23.8	5749	26.3	21.5	14285	24.4
	Married	42.0	56565	70.3	44.8	14835	67.9	41.3	41730	71.2
	Widowed/divorced	46.5	3857	4.8	50.4	1269	5.8	45.1	2588	4.4
	Total	37.5	80456	100.0	40.0	21853	100.0	36.8	58603	100.0
Sex	Male	54.5	38885	48.3	55.1	10199	46.7	54.4	28686	48.9
	Female	22.9	41571	51.7	27.5	11654	53.3	21.7	29917	51.1
	Total	37.5	80456	100.0	40.0	21853	100.0	36.8	58603	100.0

Source- Author calculated from 64th round of NSSO (2007-08)

Note- MR- migration Rate, FRQ- Frequency, PD- Percentage Distribution (Column),

Table 5: - Descriptive Statistics of Continuous Variable use in the individual decision of migration model

Variable	Major state of India (N=80456)		Developed State (N=21853)		Underdeveloped State (N=58603)	
	Mean	Variance	Mean	Variance	Mean	Variance
Age	34.46	197.32	35.78	209.45	33.97	191.91
Square of Age	1385	1109811	1490	1220880	1346	1062798

Source- Author calculated from 64th round of NSSO (2007-08)

Table 6: - Wald Chi-Square Tests of individual variable effect in the individual decision of migration model.

Variables	All rural India	LR Developed Sates	LR Underdeveloped States
(Intercept)	760.1* (0.00)	114.6* (0.00)	710.5* (0.00)
Sex	3602.5* (0.00)	1082.8* (0.00)	2404.7* (0.00)
Marital status	454.9* (0.00)	232.3* (0.00)	228.2* (0.00)
General education	297.7* (0.00)	60.9* (0.00)	227.3* (0.00)
UPA status of Adult	2532.1* (0.00)	530.4* (0.00)	1957.8* (0.00)
Age	240.1* (0.00)	17.8* (0.00)	274.1* (0.00)
Square of Age	184.9* (0.00)	5.8** (0.02)	238.4* (0.00)

Source- Results of the regression analysis

Notes: - Value inside parenthesis explain the p-value. *, **, *** are explaining the 1%, 5% and 10% level of significance. PP- average predicated probability, OR- Odd Ratio.

Table 6: - State-wise indicator of Macro Variables

Sate	GSDP Per capita 2007-08	% of population under BPL (Tendulkar 2004-05)	GINI coefficient of MPCE	Non-agricultural Wage rate	MPCE	% of HH engaged Cyclical internal migration	% of Individual engaged Cyclical internal migration
JK	22114	13.2	0.21	132.0	912	16.6	3.5
HP	36347	22.9	0.34	129.4	1211	24.5	6.8
Punjab	32437	20.9	0.37	108.9	1298	4.9	1.6
UK	34191	32.7	0.28	114.4	918	22.4	6.0
Haryana	42250	24.1	0.26	111.4	973	7.2	1.7
Rajasthan	19375	34.4	0.24	92.0	789	18.2	4.4
UP	12608	40.9	0.22	91.6	645	21.8	5.0
Bihar	7386	54.4	0.20	92.1	565	30.7	7.2
Sikkim	31144	31.1	0.28	153.5	1009	6.1	1.7
Arunachal Pradesh	21545	31.1	0.30	149.2	840	11.5	3.0
Nagaland	28510	9	0.18	167.1	1238	19.1	4.5
Manipur	16994	38	0.16	193.7	786	7.2	1.8
Mizoram	24797	15.3	0.20	118.5	1012	6.6	1.4
Tripura	23232	40.6	0.23	90.3	756	6.4	1.7
Meghalaya	23337	16.1	0.21	116.6	909	9.6	2.2
Assam	15672	34.4	0.22	86.6	779	12.1	2.7
WB	23341	34.3	0.25	78.8	649	17.9	4.9
Jharkhand	20124	45.3	0.21	85.5	592	19.1	4.7
Odisha	20648	57.2	0.22	74.0	533	18.6	5.1
Chhattisgarh	21424	49.4	0.22	74.1	557	8.4	2.7
MP	14981	48.6	0.23	67.5	598	11.6	3.3
Gujarat	42243	31.8	0.25	109.7	850	11.1	4.3
Maharashtra	49495	38.1	0.32	100.0	848	10.4	3.2
AP	27073	29.9	0.27	93.3	754	6.2	2.3
Karnataka	33298	33.4	0.37	97.0	848	9.1	2.9
Kerala	40733	19.7	0.37	157.4	1284	9.5	2.6
Tamil Nadu	41762	28.9	0.29	104.7	767	9.6	3.2
Rural India	26849	37.2	0.29	98.6	747	15.2	4.1

Calculation and sources of each variable explain in section 2.2 (Data)

Source- GSDP- EPWRF (EPW research foundation), Percentage of population under BPL-Tendulkar committee report 2004-05, GINI of MPCE, Non-Agricultural Wage, MPCE, HH Migration rate and Individual Migration rate are calculated from 64th round of NSSO data.

Appendix 3 (Chapter III)

Table 1: - Odisha rank in SDG index

Index Name	Odisha Rank	Index Name	Odisha Rank
SDG (out of 29 State)	25	SDG Clean Water & Sanitation	23
SDG End of Poverty	13	SDG Affordable & Clean Energy	25
SDG Zero Hunger	23	SDG Inequality reduction	12
SDG Health & wellbeing	13	SDG Industry, Innovation & Infrastructure	18
SDG Quality of Education	25	SDG Sustainable City & Communities	19
SDG Gender Equality	8	SDG Peace, Justice & Strong Institution	27
SDG Employment & Growth	24	SDG Life & Land	5

Source- (NITI Ayog, 2018)

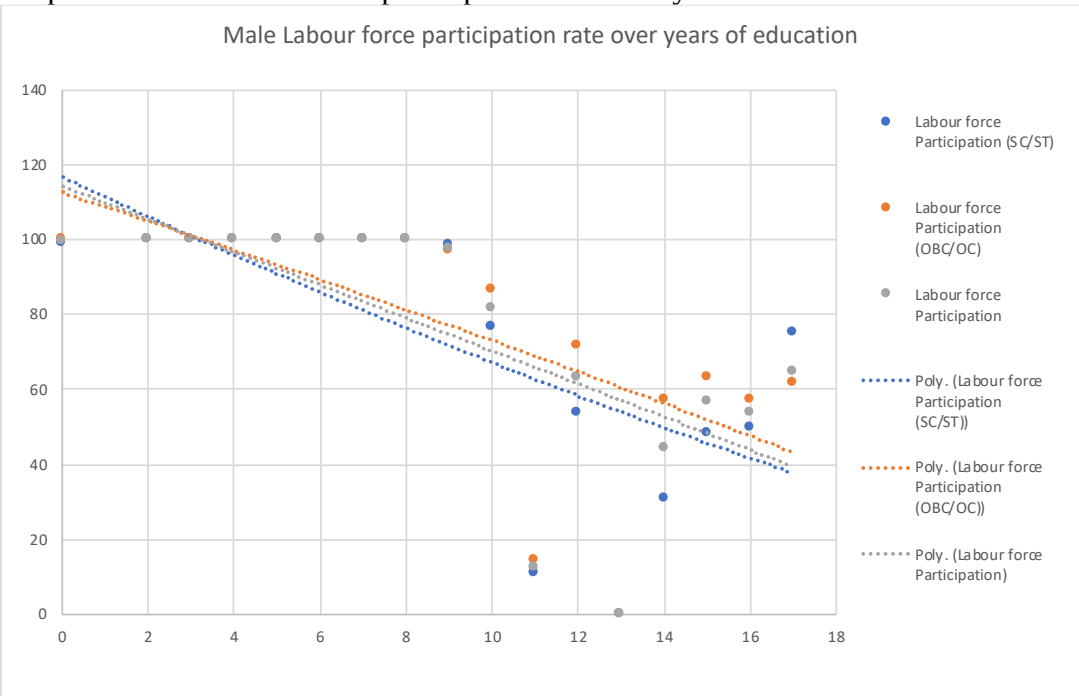
Table 2: - Odisha Rank in Different Development index Across States of India

Index Name	Odisha Rank	Number of Sate Included
Tendulkar committee BPL Rank (2004-05)	29	29*
Tendulkar committee BPL Rank (2009-10)	23	29*
Tendulkar committee BPL Rank (2011-12)	24	29*
Rangarajan BPL Rank (2009-10)	24	29*
Rangarajan BPL Rank (2011-12)	27	29*
HDI Rank (1990)	27	29
HDI Rank (2000)	28	29
HDI Rank (2010)	28	29
HDI Rank (2018)	26	29
Nutrition Index 1993	5	15
Hunger Index 2009	12	17
MPI 2005-06	23	29*
MPI 2015-16	24	29

Source- SDG-NITI Ayog 2018, HDI- Global Data Lab, MPI- *Global MPI Report*
Note- SDG- Sustainable development Goal, HDI- Human Development Index, MPI- Multidimensional Poverty Index, * suggest Delhi also included in the state list.

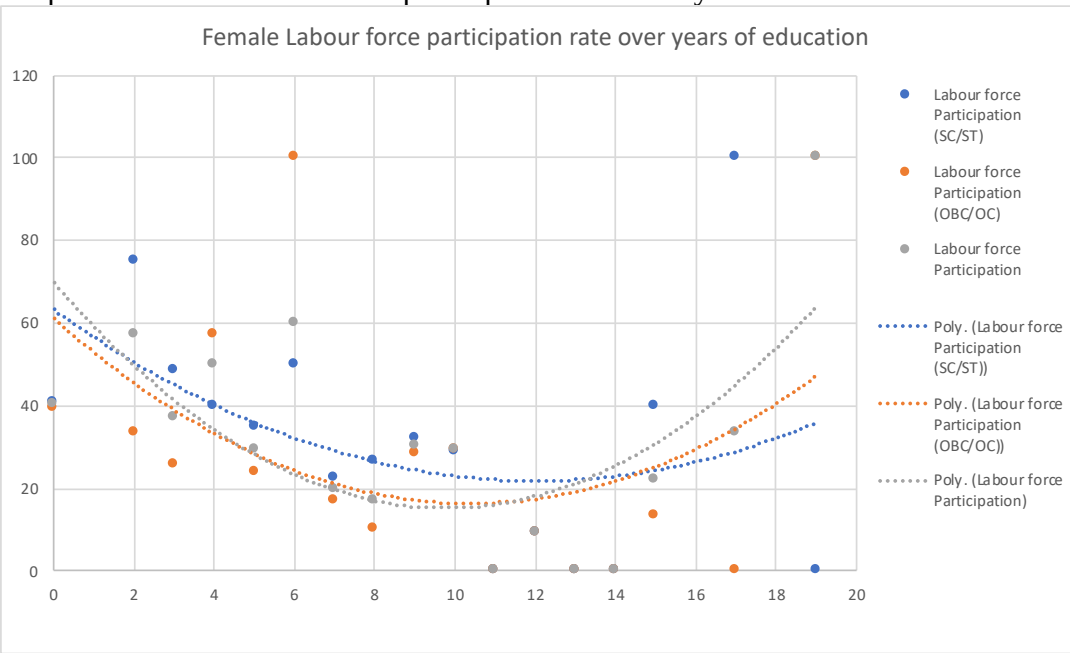
Appendix-4 (Chapter IV)

Graph 1.1: Male labour force participation rate over years of education



Source- Author's Primary Survey 2018

Graph 1.2: female labour force participation rate over years of education



Source- Author's Primary Survey 2018

Table- 1: - Paddy output, price and profit across survey districts, social and land holding groups

Variable	Category	Average production (per HH)	Price (Kg)	Labour cost (Per Acre)	Capital Cost (Per Acre)	Average Profit (per HH)
Survey District	Balangir	2164	11	3531	4644	12580
	Baleswar	4745	13.49	8172	8560	34809
	Ganjam	4566	13.44	10197	12510	28237
Social Group	ST	2490	12	5123	6472	15670
	SC	3729	12.98	7595	9360	21191
	OBC	3769	12.85	6986	7722	27557
	Others	7609	13.94	13664	13905	49099
Land Holding Group	LL	3727	13.23	7310	8926	13171
	MF	2932	12.47	5667	6631	21658
	SF	5476	13.12	10267	11331	45190
	MDF	6070	13.16	10597	11324	50303
	LF	8355	14	20773	26091	40024
All Households		3849	13	7455	8579	25366

Source- Author's Primary Survey 2018
Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other castes/category, HH- Households. LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer.

Table 2: Cotton output, price and profit across survey districts, social and land holding groups

Variable	Category	Average production (per HH)	Price (Kg)	Labour cost (Per Acre)	Capital Cost (Per Acre)	Average Profit (per HH)
Survey District	Balangir	698	44.3	3605	5057	11081
	Baleswar	539	46.8	6038	4600	493
	Ganjam	876	39.0	6564	6775	1372
Social Group	ST	730	44.5	4170	5737	10247
	SC	566	42.2	3598	4221	1807
	OBC	683	43.7	4162	5261	5106
	Others	2750	42.8	13000	11167	1709
Land Holding Group	LL	693	36.5	2625	4375	319
	MF	495	42.8	3108	3833	2993
	SF	825	43.5	4049	5131	7778
	MDF	1045	46.2	7077	9136	16191
	LF	1367	48.0	8500	9283	15872
All HH			43.6	4241	5314	4248

Source & Note: - Same as Table 1 Appendix 4.

Table 3: Vegetable output, price and profit across survey districts, social and land holding groups

District	Land Group	Total production	Price	Labour cost	Capital Cost	Average Profit
Survey District	Balangir	2428	10.5	5573	2795	1234
	Baleswar	1557	12.6	1779	4024	1220
	Ganjam	2098	14.9	3465	5159	6276
Social Group	ST	1869	11.3	3386	2825	1189
	SC	1973	13.9	2730	4668	3226
	OBC	2145	13.6	3909	4448	3775
	Others	1975	14.5	8250	7500	435
Land Holding Group	LL	1933	14.1	2368	4095	2409
	MF	1848	13.8	3091	4545	3438
	SF	2681	12.9	5721	4869	3062
	MDF	3688	10.3	8733	3900	1647
All Households		2047	13.6	3461	4472	2894

Source & Note: - Same as Table 1 Appendix 4.

Table 4: Cereal and oilseeds output, price and profit across survey districts, social and land holding groups

District	Land Group	Total production	Price	Labour cost	Capital Cost	Average Profit
Survey District	Balangir	191	70	1364	1014	7652
	Baleswar	114	71	1783	1326	5001
	Ganjam	787	55	5355	4172	14735
Social Group	ST	117	73	1089	771	6796
	SC	564	57	3336	2677	10838
	OBC	360	65	2635	2069	8402
	Others	950	62	8470	6125	23468
Land Holding Group	LL	449	54	2509	2200	8494
	MF	457	64	2919	2209	9648
	SF	487	62	3846	3069	9304
	MDF	484	71	3823	2732	19983
	LF	196	71	3063	1850	9449
All Households		457	63	3265	2516	10598

Source & Note: - Same as Table 1 Appendix 4.

Table 5: Average price, total Collection, number of days spent in the collection and Average income from forest product across social groups, land holding groups and current migrant HH among survey HH of Balangir district

Variable	Category	Mahua				Chahar				Tendu leaves				Wood				Broom stick				Average Income
		P	TC	D	TI	P	TC	D	TI	P	TC	D	TI	P	TC	D	TI	P	TC	D	TI	
Social Group	ST	22	65	25	1430	65	35	5	2275	100	29	12	2900	167	25	30	4183	22	167	42	3647	4695
	SC	23	128	29	3008	68	88	8	5955	100	25	13	2500	.	.	.	.	23	158	55	3623	4433
	OBC	21	89	24	1908	62	39	5	2453	100	28	11	2800	184	23	28	4144	22	109	35	2523	4532
Land Holding Group	LL	.	.	.	.	.	.	.	.	100	26	11	2600	183	20	25	3738	22	98	38	2115	3894
	MF	22	61	22	1314	61	33	5	1973	100	28	11	2800	180	25	31	4475	22	152	45	3487	4493
	SF	22	83	26	1846	65	55	5	3575	100	27	12	2700	150	25	25	3750	25	130	35	3250	4610
	MDF	22	151	29	3384	67	68	7	4620	.	.	.	.	.	.	.	.	.	.	.	.	6156
migrant HH	Yes	22	86	26	1863	63	32	5	2008	100	30	12	3000	183	24	30	4395	22	138	42	3169	4987
	No	22	98	25	2187	64	58	6	3813	100	25	11	2500	160	23	25	3575	21	90	50	1890	4008
All Survey HH		22	95	25	2111	64	49	5	3211	100	28	12	2800	176	24	29	4161	22	135	42	3078	4547

Source & Note[1]: - Same as Table 1 Appendix 4. Note[2:] - HH- Households. P- Price, TC- Total Collection, D- Number of days engaged in collection, TI- Total Income

Table 6: Average Wage rate on the farm and non-farm work over male and female worker across survey districts, social and land holding groups

Variable	Category	Average farm Wage Rate		Average Gap in farm wage rate (t statistics) {% gap}	Average Non-Farm wage rate		Average Gap in non-farm wage rate (t statistics) {% gap}
		M	F	(M-F)	M	F	(M-F)
District	Balangir	125.1	103.2	22.0* (19.0) {21.3}	169.7	139.7	29.99* (6.4) {21.5}
	Baleswar	241.0	214.5	26.4* (12.5) {12.3}	269.9	237.1	32.84* (4.4) {13.8}
	Ganjam	235.2	144.5	90.7* (60.5) {62.8}	272.3	236.8	35.54** (2.34) {15.0}
Social Group	ST	153.1	121.7	31.5* (3.6) {25.9}	209.3	149.4	59.94* (4.2) {40.1}
	SC	216.9	150.8	66.1* (11.7) {43.8}	251.9	211.3	40.57* (5.5) {19.2}
	OBC	174.8	125.8	49.0* (6.9) {39.0}	224.4	181.2	43.26* (3.5) {23.9}
	Others	245.0	.		350.0	-	
Land Holding Group	LL	207.7	151.3	56.4* (7.9) {37.3}	251.5	219.2	32.29* (4.4) {14.7}
	MF	184.5	133.8	50.7* (9.0) {37.9}	232.8	190.2	42.61* (3.2) {22.4}
	SF	157.2	108.7	48.6* (3.0) {44.7}	222.1	178.3	43.78 (1.2) {24.5}
	MDF & LF	120.0	110.0	10.0 (0.0) {9.1}	156.7	130.0	26.67 (0.0) {20.5}
All Work force		190.9	137.3	53.6* (12.5) {39.1}	237.4	198.0	39.38* (4.6) {19.9}

Source & Note[1]: - Same as Table 1 Appendix 4. Note[2:] - HH- Households. Value inside parenthesis () explain t-statistics. The value inside the parenthesis {} is the average percentage gap. M- Male, F-Female

Table 7: Average number of days of farm and non-farm work over male and female worker across Survey district, social group and land holding group

Variable	Category	Average Number of days of Farm Work		Average Gap in farm wage rate (t statistics) {% gap}	Average Number of days of Non-Farm Work		Average Gap in farm wage rate (t statistics) {% gap}
		M	F	(F-M)	M	F	(M-F)
District	Balangir	45.72	50.48	4.76** (2.56) {9.43}	67.71	37.50	30.21* (6.8) {80.56}
	Baleswar	38.36	61.47	23.11* (7.22) {37.6}	71.24	44.12	27.12** (3.16) {61.47}
	Ganjam	32.48	61.63	29.15* (11.29) {47.3}	68.00	38.74	29.26* (7.27) {75.53}
Social Group	ST	42.47	52.63	10.16* (3.41) {19.3}	72.27	37.50	34.77* (5.23) {92.72}
	SC	38.73	59.74	21.01* (10.03) {35.17}	70.15	40.46	29.69* (6.49) {73.38}
	OBC	39.26	52.58	13.32* (5.14) {25.33}	66.08	37.94	28.14* (5.53) {74.17}
	Others	45.00	0.00	-	47.50	-	-
Land Holding Group	LL	40.37	59.14	18.77* (7.26) {31.74}	71.10	39.96	31.14* (5.89) {77.93}
	MF	39.94	56.08	16.14* (9.1) {28.78}	67.29	38.98	28.31* (7.07) {72.63}
	SF	32.16	40.38	8.22 (1.41) {20.36}	69.21	38.33	30.88** (2.66) {80.56}
	MDF & LF	36.25	60.00	23.75 (1.12) {39.58}	77.50	50.00	27.5 (0.67) {55.0}
All Work force		39.65	55.83	16.18* (11.17) {28.98}	69.03	39.39	29.64* (9.81) {75.25}

Source & Note[1]: - Same as Table 1 Appendix 4. Note[2]: - HH- Households. Value inside parenthesis () explain t-statistics. The value inside the parenthesis {} is the average percentage gap. M- Male, F-Female

Table 8: Average origin source income and their respective share of each source in total income across social group for each survey district.

Dist	Social Group	Agricultural	Farm Labour	Non-farm Labour	Regular earning	Forest & Livestock Income	Total Income
Balangir	ST	29166 (56.7)	8392 (16.3)	7273 (14.1)	3156 (6.1)	3432 (6.7)	51419
	SC	16374 (33.4)	9080 (18.6)	6001 (12.3)	13615 (27.8)	3877 (7.9)	48947
	OBC	31663 (53.7)	7315 (12.4)	6518 (11.1)	8234 (14.0)	5241 (8.9)	58972
Baleswar	ST	22018 (28.2)	17378 (22.2)	19197 (24.6)	14526 (18.6)	5068 (6.5)	78188
	SC	18367 (21.3)	14757 (17.1)	16047 (18.6)	31069 (36.1)	5850 (6.8)	86089
	OBC	38346 (36.4)	5894 (5.6)	5242 (5.0)	52116 (49.5)	3690 (3.5)	105288
	Other	70085 (23.8)	0(0)	0 (0)	223059 (75.7)	1647 (0.6)	294791
Ganjam	SC	31181 (41.4)	14047 (18.6)	16309 (21.7)	12303 (16.3)	1490 (2.0)	75330
	OBC	40365 (40.9)	8793 (8.9)	8037 (8.1)	37920 (38.4)	3513 (3.6)	98628
	Other	52688 (30.6)	1106 (0.6)	1652 (1.0)	116049 (67.4)	793 (0.5)	172287
Total		31908 (36.1)	9445 (10.7)	9427 (10.7)	34044 (38.5)	3662 (4.1)	88486

Source- Author's Primary Survey 2018

Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other Castes/Category. The value inside the parenthesis () explains the percentage share in total average income.

Table 9: Average origin source income and their respective share of each source in total income across land holding group for each survey district.

Dist	Land Holding	Agricultural	Farm Labour	Non-farm Labour	Regular earning	Forest & Livestock Income	Total Income
Balangir	LL	1025 (4.0)	10737 (42.3)	6856 (27.0)	4129 (16.3)	2651 (10.4)	25398
	MF	14882 (35.9)	10019 (24.1)	7483 (18.0)	4591 (11.1)	4524 (10.9)	41500
	SF	42861 (66.5)	4475 (6.9)	5713 (8.9)	6154 (9.6)	5219 (8.1)	64422
	MDF	78246 (64.3)	2036 (1.7)	3981 (3.3)	33714 (27.7)	3664 (3.0)	121642
	LF	76353 (77.5)	5125 (5.2)	6010 (6.1)	6600 (6.7)	4435 (4.5)	98523
Baleswar	LL	10579 (14.5)	15058 (20.6)	15970 (21.8)	26471 (36.2)	5104 (7.0)	73181
	MF	20504 (21.1)	12731 (13.1)	11381 (11.7)	47846 (49.2)	4688 (4.8)	97150
	SF	40393 (38.4)	7654 (7.3)	12235 (11.6)	40000 (38.0)	4936 (4.7)	105218
	MDF	64301 (40.6)	684 (0.4)	2356 (1.5)	87360 (55.2)	3684 (2.3)	158385
	LF	79126 (35.3)	2155 (1.0)	0 (0)	139579 (62.2)	3405 (1.5)	224266
Ganjam	LL	17958 (25.9)	14528 (20.9)	15957 (23.0)	19286 (27.8)	1707 (2.5)	69436
	MF	35692 (47.3)	11758 (15.6)	12200 (16.2)	13378 (17.7)	2480 (3.3)	75508
	SF	44397 (53.2)	5820 (7.0)	4446 (5.3)	27360 (32.8)	1480 (1.8)	83504
	MDF	69097 (42.3)	1825 (1.1)	4976 (3.0)	84194 (51.5)	3339 (2.0)	163430
	LF	74949 (26.0)	420 (0.1)	0 (0)	212400 (73.8)	0 (0)	287769
Total		31908 (36.1)	9445 (10.7)	9427 (10.7)	34044 (38.5)	3662 (4.1)	88486

Source- Author's Primary Survey 2018

Note- LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer. The value inside the parenthesis () explains the percentage share in total average income.

Appendix 5 (Chapter V)

Table 1: - Average yearly income from at the place of origin, yearly consumption expenditure and percentage of households consume more than their income across survey districts and land holding groups

Dist	Land holding Categories	Total Income at origin	HH Consumption Expenditure	Average of Con. as % of Income in Origin Sources	Percentage of HH con. > income in origin Sources
Balangir	LL	25398	26685	137.04	64.7 (22)
	MF	41500	29031	127.21	33 .0 (36)
	SF	64422	31566	70.66	12.8 (5)
	MDF	121642	46860	52.24	4.8 (1)
	LF	98523	55736	73.47	10.0 (1)
Baleswar	LL	73181	40915	74.59	19.1 (13)
	MF	97150	41382	69.32	19.2 (15)
	SF	105218	41789	61.9	15.2 (5)
	MDF	158385	52161	52.12	8.0 (2)
	LF	224266	60918	43.98	5.3 (1)
Ganjam	LL	69436	38368	111.06	25.7 (18)
	MF	75508	40558	89.39	31.1 (23)
	SF	83504	44233	68.63	20.0 (5)
	MDF	163430	52842	72.38	9.7 (3)
	LF	287769	71009	44.77	6.7 (1)
Total		88486	40247	87.2	24.3 (157)

Source- Author's Primary Survey 2018

Note- LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer. The value inside the parenthesis () explains the number of Households.

Table 2: - Average yearly income from at the place of origin, yearly consumption expenditure and percentage of households consume more than their income across survey districts and social groups

Dist	Social Group	Total Income at origin	HH Consumption Expenditure	Average of Con. as % of Income in Origin Sources	Percentage of HH con. > income in origin Sources
Balangir	ST	51419	32547	92.26	30.1 (22)
	SC	48947	28771	107.63	40.4 (21)
	OBC	58972	33844	121.04	24.1 (21)
Baleswar	ST	78188	44996	69.69	15.8 (3)
	SC	86089	41124	66.93	17.8 (18)
	OBC	105288	44543	69.46	16.3 (14)
	Others	294791	59478	34.88	5.9 (1)
Ganjam	SC	75330	40605	96.68	31.3 (31)
	OBC	98628	41273	74.99	17.3 (13)
	Others	172287	58065	92.03	14.6 (6)
Total		88486	40247	87.2	24.3 (157)

Source- Author's Primary Survey 2018

Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other Castes/Category. The value inside the parenthesis () explains the number of Households.

Table 3: - Average yearly Income from origin source, yearly consumption expenditure and percentage of households consume more than their income over migrant and non-migrant households across survey district and land holding group

District	Social Group	Migrant HH				Non-Migrant HH			
		Total Income in origin sources	HH Con. Exp.	Con. as % of Income in Origin Sources	Percentage of HH con. > income in origin Sources	Total Income in origin sources	HH Con. Exp.	Con. as % of Income in Origin Sources	Percentage of HH con.> income in origin Sources
Balangir	LL	20948	26493	145.58	74.1 (20)	42564	27427	104.09	28.6 (2)
	MF	34044	29293	161.45	45.6 (31)	53865	28585	69	14.2 (6)
	SF	52590	35145	97.18	26.3 (5)	75663	28166	44.14	4.8 (1)
	MDF	75710	44822	62.31	0 (0)	135996	47497	49.09	6.2 (1)
	LF	82006	52233	93	25.0 (1)	109533	58072	60.45	0 (0)
Baleswar	LL	65394	43686	97.67	38.2 (13)	80968	38145	52.19	0 (0)
	MF	79768	43144	88.8	38.9 (14)	112048	39834	52.22	2.4 (1)
	SF	64558	42971	92.21	38.5 (5)	131646	41021	42.2	0 (0)
	MDF	101764	51164	79.55	22.2 (2)	190234	52722	36.69	0 (0)
	LF	95475	61395	93.7	25 (1)	258610	60791	30.72	0 (0)
Ganjam	LL	59884	41606	148.32	35.6 (16)	86629	32538	46.96	8.0 (2)
	MF	64803	42254	105.22	40.4 (23)	111402	34869	36.32	6.4 (1)
	SF	75466	47445	79.56	30.8 (4)(	92211	40754	56.79	8.3 (1)
	MDF	97758	54905	112.93	20.0 (3)	224998	50908	34.35	0 (0)
	LF	171114	72787	67.03	14.3 (1)	389841	69453	25.29	0 (0)
Total		61383	40286	118.2	40.2 (142)	121194	40200	49.7	5.1 (15)

Source & Note- Same as Appendix 5 Table 1.

Table 4: - Average yearly Income from origin source, yearly consumption expenditure and percentage of households consume more than their income over migrant and non-migrant households across survey district and social group

District	Social Group	Migrant HH				Non-Migrant HH			
		Total Income in origin sources	HH Con. Exp.	Con. as % of Income in Origin Sources	Percentage of HH con. > income in origin Sources	Total Income in origin sources	HH Con. Exp.	Con. as % of Income in Origin Sources	Percentage of HH con.> income in origin Sources
Balangir	ST	42468	31502	107.55	40.4 (19)	67599	34435	64.63	11.5 (3)
	SC	26144	27257	135.94	60.0 (21)	95896	32082	45.68	9.8 (2)
	OBC	41640	33650	183.62	40.0 (16)	73723	34009	66.62	10.6 (5)
Baleswar	ST	62373	45701	83.81	30.0 (10)	95761	44212	53.99	10.0 (1)
	SC	74267	43544	86.04	35.3 (18)	98149	38605	47.42	0 (0)
	OBC	82450	46733	98.82	38.2 (13)	120220	43111	50.27	1.9 (1)
	Others	17450	36500	209.17	100 (1)	312125	60914	23.99	0 (0)
Ganjam	SC	65637	43322	119.01	42 (29)	97622	34358	46.07	6.7 (2)
	OBC	71023	43024	98.14	25.5 (12)	144966	38333	36.96	3.6 (1)
	Others	103175	58062	141.22	28.6 (6)	244855	58068	40.39	0 (0)
Total		61383	40286	118.2	40.2 (142)	121194	40200	49.7	5.1 (15)

Source & Note- Same as Appendix 5 Table 2.

Table 5: - ATE of FCI across the sociographical groups

Variable {(a-b)}	ATE (Migrant)	ATE (Non-Migrant)	ATE (All HH)
Balangir-Baleswar	-1.005*** (0.153)	-1.23*** (0.171)	-1.148*** (0.114)
Balangir- Ganjam	-0.733*** (0.137)	-0.789*** (0.21)	-0.747*** (0.118)
Baleswar-Ganjam	0.272 (0.175)	0.44** (0.188)	0.401** (126)
ST-SC	-0.464** (0.186)	-0.243 (0.248)	-0.381*** (0.149)
ST-OBC	-0.687*** (0.191)	-0.617** (0.28)	-0.693*** (0.162)
ST-OC	-0.992*** (0.285)	-1.002*** (0.32)	-1.072*** (0.209)
SC-OBC	-0.22 (152)	-0.374** (187	-0.312** (0.118)
SC-OC	-0.53* (0.285)	-0.76*** (0.245)	-0.691*** (0.183)
OBC-OC	-0.304 (0.29)	-0.386 (0.277)	-0.389* (0.2)

Source- Author's Primary Survey 2018

Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other castes/category, LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer, HH- Households. The figure inside the parenthesis () explains the value of stander error. *, **, *** represents level of significance at 10%, 5% and 1% respectively. In ATE, the null hypothesis is equal to zero.

Table 6: - Percentage distribution of first (Major amount) uses of remittance across survey districts, social groups, and land holding groups.

Variable	Category	Consumption	Investment & Saving	Education	Health	Repayment	House construction	Total uses of remittance
District	Balangir	58.7 (84)	7.0 (10)	1.4 (2)	12.6 (18)	15.4 (22)	4.9 (7)	100 (143)
	Baleswar	49.1 (56)	7.0 (8)	7.0 (8)	0.9 (1)	25.4 (29)	10.5 (12)	100 (114)
	Ganjam	44.3 (82)	5.9 (11)	0.5 (1)	0.5 (1)	35.7 (66)	13.0 (24)	100 (185)
Social Group	ST	45.8 (22)	12.5 (6)	2.1 (1)	16.7 (8)	16.7 (8)	6.3 (3)	100 (48)
	SC	54.3 (119)	4.6 (10)	1.4 (3)	3.2 (7)	26.0 (57)	10.5 (23)	100 (219)
	OBC	42.6 (63)	7.4 (11)	4.1 (6)	3.4 (5)	32.4 (48)	10.1 (15)	100 (148)
	OC	66.7 (18)	7.4 (2)	3.7 (1)	0.0 (0)	14.8 (4)	7.4 (2)	100 (27)
Land Holding Group	LL	58.0 (91)	1.9 (3)	2.5 (4)	5.1 (8)	23.6 (37)	8.9 (14)	100 (157)
	MF	49.3 (106)	5.6 (12)	2.3 (5)	4.7 (10)	28.8 (62)	9.3 (20)	100 (215)
	SF	30.9 (17)	16.4 (9)	1.8 (1)	3.6 (2)	32.7 (18)	14.5 (8)	100 (55)
	MDF	70.0 (7)	10.0 (1)	10.0 (1)	0.0 (0)	0.0 (0)	10.0 (1)	100 (10)
	LF	20.0 (1)	80.0 (4)	0.0 (0)	0.0 (0)	0.0 (0)	0.0 (0)	100 (5)
All Migrant		50.2 (222)	6.6 (29)	2.5 (11)	4.5 (20)	26.5 (117)	9.7 (43)	100 (442)

Source- Author's Primary survey (2018)

Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other Backward class. LL- Land Less, MF- Marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer. The value inside the parenthesis () represents the number of migrant individuals.

Table – 7: - Percentage distribution of second major use of remittance across survey districts, social groups and land holding groups.

Variable	Category	Consumption	Investment	Education	Health	Repayment	House construction	Total 2nd use of remittance
District	Balangir	37.9 (44)	4.3 (5)	8.6 (10)	19.0 (22)	25.0 (29)	5.2 (6)	100 (116)
	Baleswar	21.8 (24)	20.9 (23)	6.4 (7)	7.3 (8)	19.1 (21)	24.5 (27)	100 (110)
	Ganjam	40.0 (74)	25.4 (47)	5.4 (10)	9.7 (18)	5.4 (10)	14.1 (26)	100 (185)
Social Group	ST	37.8 (14)	8.1 (3)	16.2 (6)	16.2 (6)	10.8 (4)	10.8 (4)	100 (37)
	SC	31.7 (66)	12.0 (25)	7.7 (16)	14.4 (30)	18.3 (38)	15.9 (33)	100 (208)
	OBC	38.1 (53)	26.6 (37)	2.2 (3)	6.5 (9)	12.2 (17)	14.4 (20)	100 (139)
	OC	33.3 (9)	37.0 (10)	7.4 (2)	11.1 (3)	3.7 (1)	7.4 (2)	100 (27)
Land Holding Group	LL	36.3 (53)	12.3 (18)	2.7 (4)	14.1 (21)	19.9 (29)	14.4 (21)	100 (146)
	MF	32.8 (66)	19.9 (40)	10.0 (20)	10.9 (22)	12.9 (26)	13.4 (27)	100 (201)
	SF	42.0 (21)	28.0 (14)	2.0 (1)	6.0 (3)	10.0 (5)	12.0 (6)	100 (50)
	MDF	20.0 (2)	30.0 (3)	10.0 (1)	10.0 (1)	0.0 (0)	30.0 (3)	100 (10)
	LF	0.0 (0)	0.0 (0)	25.0 (1)	25.0 (1)	0.0 (0)	50.0 (2)	100 (4)
All Migrant person		34.5 (142)	18.2 (75)	6.6 (27)	11.7 (48)	14.6 (60)	14.4 (59)	100 (411)

Source & Note- Same as Appendix 5 Table 6.

Table 8: - Average amount loan among migrant and non-migrant households from the institutional and non-institutional sources across survey districts, social groups, land holding groups.

Variable	Category	Migrant HH		Non-Migrant		All Households	
		Institutional Loan Amount	Non-Institutional Loan Amount	Institutional Loan Amount	Non-Institutional Loan Amount	Institutional Loan Amount	Non-Institutional Loan Amount
District	Balangir	25684	17736	38283	22052	33398	20883
	Baleswar	45796	32917	47922	44316	47125	37953
	Ganjam	34280	52857	35639	56106	34849	55361
Social Group	ST	37200	21200	38733	21946	38120	21731
	SC	36571	26676	43509	35766	39945	32612
	OBC	40938	39021	45036	40681	43355	40195
	OC	32222	7000	39474	39375	37143	32900
Land Holding group	LL	37914	33322	36615	35944	37230	34071
	MF	36625	31287	43295	25931	39918	29887
	SF	36000	38333	48517	25000	43408	33000
	MDF	42762	67222	43900	33591	43431	48725
	LF	37857	9333	47579	0	44962	9333
All HH		38008	29304	43234	34466	40930	32854

Source & Note- Same as Appendix 5 Table 6.

Table 9: - Average interest rate on institutional and non-institutional source of credit among migrant and non-migrant households across survey districts, social groups and land holding groups.

		Migrant HH		Non-Migrant		All Households	
		Interest rate on Institutional Loan	Interest rate on Non-Institutional Loan	Interest rate on Institutional Loan	Interest rate on Non-Institutional Loan	Interest rate on Institutional Loan	Interest rate on Non-Institutional Loan
District	Balangir	17.0	57.9	12.8	67.5	10.3	64.9
	Baleswar	16.9	54.2	15.4	46.9	14.5	51.2
	Ganjam	12.0	25.6	12.9	24.9	14.2	25.0
Social Group	ST	15.6	58.5	12.3	64.1	10.0	62.6
	SC	18.9	50.0	18.6	51.2	18.4	50.8
	OBC	12.2	45.6	12.9	47.3	13.4	46.8
	OC	2.8	60.0	3.7	47.3	4.2	50.5
Land Holding group	LL	21.2	45.6	19.9	50.6	18.7	49.1
	MF	16.0	53.0	16.9	54.1	17.7	53.8
	SF	8.1	43.6	8.1	52.1	8.0	49.0
	MDF & LF	3.5	60.7	4.2	48.9	4.4	55.8
All HH		14.9	50.4	14.2	52.8	13.6	52.0

Source & Note- Same as Appendix 5 Table 6.

Table 10: - Access to credit among migrant and non-migrant households among landholding categories across survey districts.

		Migrant HH			Non-Migrant HH		
Dist	Land Holding	Percentage of HH Borrow	Percentage of HH Borrow from Institutional source	Percentage of HH Borrow from non-institutional source	Percentage of HH Borrow	Percentage of HH Borrow from Institutional source	Percentage of HH Borrow from non-institutional source
Balangir	LL	57.1 (4)	14.3	57.1	81.5 (22)	14.8	81.5
	MF	46.3 (19)	17.1	36.6	83.8 (57)	8.8	79.4
	SF	75.0 (15)	45.0	45.0	89.5 (17)	31.6	78.9
	MDF	75 (12)	56.2	50.0	60 (3)	20.0	60.0
	LF	66.7 (4)	66.7	0.0	75 (3)	50.0	75.0
Baleswar	LL	82.4 (28)	73.5	23.5	61.8 (21)	55.9	23.5
	MF	66.7 (28)	57.1	23.8	58.3 (21)	47.2	16.7
	SF	75.0 (15)	75.0	30.0	69.2 (9)	69.2	15.4
	MDF	93.8 (15)	93.8	0.0	77.8 (7)	77.8	33.3
	LF	73.3 (11)	73.3	0.0	50 (2)	50.0	0.0
Ganjam	LL	68 (17)	52.0	24.0	48.9 (22)	26.7	33.3
	MF	64.7 (11)	47.1	23.5	59.6 (34)	29.8	38.6
	SF	41.7 (5)	41.7	8.3	69.2 (9)	38.5	53.8
	MDF	43.8 (7)	37.5	18.8	86.7 913)	86.7	20.0
	LF	50.0 (4)	50.0	0.0	42.9 (3)	42.9	0.0
Total		68.3 (243)	50.6	67.1	66.1 (195)	80	37.9

Source & Note- Same as Appendix 5 Table 1.

Table 11: - Access to credit among migrant and non-migrant households among social groups across survey districts.

		Migrant HH			Non-Migrant HH		
Dist	Social Group	Percentage of HH Borrow	Percentage of HH Borrow from Institutional source	Percentage of HH Borrow from non-institutional source	Percentage of HH Borrow	Percentage of HH Borrow from Institutional source	Percentage of HH Borrow from non-institutional source
Balangir	ST	65.4 (17)	26.9	46.2	78.7 (37)	8.5	76.6
	SC	70.6 (12)	41.2	52.9	88.6 (31)	25.7	80.0
	OBC	53.2 (25)	34.0	31.9	82.5 (33)	15.0	80.0
Baleswar	ST	88.9 (8)	88.9	33.3	60.0 (6)	60.0	10.0
	SC	80.0 (40)	66.0	36.0	68.6 (35)	56.9	29.4
	OBC	75.0 (39)	75.0	3.8	55.9 (19)	55.9	8.8
	Other	62.5 (10)	62.5	6.2	0(0)	0.0	0.0
Ganjam	SC	56.7 (17)	43.3	23.3	47.8 (33)	26.1	30.4
	OBC	64.3 (18)	50.0	25.0	76.6 (36)	48.9	48.9
	Other	45.0 (9)	45.0	0.0	57.1 (12)	42.9	14.3
Total		68.3 (243)	50.6	67.1	66.1 (195)	80	37.9

Source & Note- Same as Appendix 5 Table 2.

Table 12: - Percentage ownership of quality of house among migrant and non-migrant households across survey districts, social groups & land holding groups

		Migrant HH		Non-Migrant HH		All Households	
Variable	Category	*Pakka* House	Other types of House	P*akka* House	Other types of House	*Pakka* House	Other types of House
	Balangir	57.7	42.3	60	40	58.7	41.3
	Baleswar	63.5	36.5	63	37	63.2	36.8
District	Ganjam	82.5	17.5	88.5	11.5	84.7	15.3
	ST	56.1	43.9	57.1	42.9	56.5	43.5
	SC	71	29	80.4	19.6	74.6	25.4
	OBC	70.2	29.8	55.9	44.1	62.9	37.1
Social Group	OC	78.3	21.7	94.4	5.6	88.1	11.9
	LL	68.9	31.1	68.2	31.8	68.6	31.4
	MF	65.8	34.2	65.0	35.0	65.5	34.5
	SF	62.2	37.8	61.5	38.5	61.9	38.1
Land Holding	MDF	86.2	13.8	77.1	22.9	80.5	19.5
Group	LF	86.7	13.3	82.8	17.2	84.1	15.9
All HH		68.8	31.2	68.8	31.2	68.8	31.2

Source & Note- Same as Appendix 5 Table 6.

Table 13: - Availability of latrine in the house among migrant and non-migrant households across survey districts, social groups & land holding groups

Variable	Category	Migrant HH		Non-Migrant HH		All Households	
		Own Latrine	No Latrine	Own Latrine	No Latrine	Own Latrine	No Latrine
District	Balangir	57.7	42.3	71.1	28.9	63.4	36.6
	Baleswar	69.8	30.2	74.8	25.2	72.6	27.4
	Ganjam	75.9	24.1	80.8	19.2	77.7	22.3
Social Group	ST	45.6	54.4	65.7	34.3	53.3	46.7
	SC	65.2	34.8	66	34	65.5	34.5
	OBC	76.9	23.1	78	22	77.4	22.6
	OC	95.7	4.3	100	0	98.3	1.7
Land Holding Group	LL	55.7	44.3	53.0	47.0	54.7	45.3
	MF	70.2	29.8	71.0	29.0	70.5	29.5
	SF	68.9	31.1	88.5	11.5	79.4	20.6
	MDF	89.7	10.3	93.8	6.3	92.2	7.8
	LF	86.7	13.3	86.2	13.8	86.4	13.6
All HH		68	32	75.3	24.7	71.3	28.7

Source & Note- Same as Appendix 5 Table 6.

Table 14: - Availability of bathroom in the house among migrant and non-migrant households across survey districts, social groups & land holding groups

Variable	Category	Migrant HH		Non-Migrant HH		All Households	
		Own Bathroom	No Bath Room	Own Bathroom	No Bath Room	Own Bathroom	No Bath Room
District	Balangir	0.8	99.2	16.7	83.3	7.5	92.5
	Baleswar	28.7	71.3	32.3	67.7	30.7	69.3
	Ganjam	35.8	64.2	51.3	48.7	41.4	58.6
Social Group	ST	5.3	94.7	11.4	88.6	7.6	92.4
	SC	18.1	81.9	13.4	86.6	16.3	83.7
	OBC	28.6	71.4	34.7	65.3	31.7	68.3
	OC	52.2	47.8	97.2	2.8	79.7	20.3
Land Holding Group	LL	13.2	86.8	6.1	93.9	10.5	89.5
	MF	17.0	83.0	16.5	83.5	16.8	83.2
	SF	22.2	77.8	40.4	59.6	32.0	68.0
	MDF	55.2	44.8	64.6	35.4	61.0	39.0
	LF	66.7	33.3	79.3	20.7	75.0	25.0
All HH		21.8	78.2	32.5	67.5	26.6	73.4

Source & Note- Same as Appendix 5 Table65.

Table 15: - Access to tap drinking water among migrant and non-migrant households across survey districts, social groups & land holding groups

Variable	Category	Migrant HH		Non-Migrant HH		All Households	
		Tap Drinking Water	other sources of Drinking Water	Tap Drinking Water	other sources of Drinking Water	Tap Drinking Water	other sources of Drinking Water
District	Balangir	0.8	99.2	10.0	90.0	4.7	95.3
	Baleswar	51.0	49.0	73.2	26.8	63.7	36.3
	Ganjam	8.0	92.0	25.6	74.4	14.4	85.6
Social Group	ST	17.5	82.5	34.3	65.7	23.9	76.1
	SC	17.4	82.6	40.2	59.8	26.2	73.8
	OBC	14.9	85.1	37.0	63.0	26.2	73.8
	OC	26.1	73.9	66.7	33.3	50.8	49.2
Land Holding Group	LL	16.0	84.0	39.4	60.6	18.8	81.2
	MF	11.2	88.8	31.0	69.0	20.6	79.4
	SF	11.1	88.9	28.8	71.2	50.6	49.4
	MDF	41.4	58.6	56.3	43.8	72.7	27.3
	LF	60.0	40.0	79.3	20.7	25.0	75.0
All HH		17.1	82.9	41.4	58.6	28.1	71.9

Source & Note- Same as Appendix 5 Table 6.

Table 16: - Electricity connection among migrant and non-migrant households across survey districts, social groups & land holding groups

Variable	Category	Migrant HH		Non-Migrant HH		All Households	
		Electricity connection	No connection	Electricity connection	No connection	Electricity connection	No connection
District	Balangir	78.9	21.1	81.1	18.9	79.8	20.2
	Baleswar	96.9	3.1	100	0	98.7	1.3
	Ganjam	87.6	12.4	89.7	10.3	88.4	11.6
Social Group	ST	82.5	17.5	94.3	5.7	87	13
	SC	85.8	14.2	90.7	9.3	87.7	12.3
	OBC	90.1	9.9	89	11	89.5	10.5
	OC	91.3	8.7	100	0	96.6	3.4
Land Holding Group	LL	80.2	19.8	84.8	15.2	82.0	18.0
	MF	86.3	13.7	91.0	9.0	88.1	11.9
	SF	95.6	4.4	90.4	9.6	92.8	7.2
	MDF	100.0	0.0	100.0	0.0	100.0	0.0
	LF	93.3	6.7	96.6	3.4	95.5	4.5
All HH		87.1	12.9	91.5	8.5	89.1	10.9

Source & Note- Same as Appendix 5 Table 6.

Table 17: - Use of LPG in cooking fuel among migrant and non-migrant households across survey districts, social groups & land holding groups

Variable	Category	Migrant HH		Non-Migrant HH		All Households	
		LPG	Other Fuel	LPG	Other Fuel	LPG	Other Fuel
District	Balangir	4.9	95.1	31.1	68.9	16	84
	Baleswar	83.3	16.7	88.2	11.8	86.1	13.9
	Ganjam	87.6	12.4	87.2	12.8	87.4	12.6
Social Group	ST	22.8	77.2	48.6	51.4	32.6	67.4
	SC	64.5	35.5	76.3	23.7	69	31
	OBC	61.2	38.8	63.8	36.2	62.5	37.5
	OC	82.6	17.4	100	0	93.2	6.8
Land Holding Group	LL	61.3	38.7	74.2	25.8	66.3	33.7
	MF	47.8	52.2	62.0	38.0	53.3	46.7
	SF	62.2	37.8	67.3	32.7	64.9	35.1
	MDF	82.8	17.2	77.1	22.9	79.2	20.8
	LF	80.0	20.0	86.2	13.8	84.1	15.9
All HH		57.9	42.1	70.5	29.5	63.6	36.4

Source & Note- Same as Appendix 5 Table 6.

Table 18: - ATE of PCI among the sociographical groups

Variable {(a-b) =0}	ATE (Migrant)	ATE (Non-Migrant)	ATE (All HH)
Balangir-Baleswar	-1.831*** (0.165)	-1.515*** (0.187)	-1.746*** (0.125)
Balangir- Ganjam	-1.664*** (0.153)	-1.432*** (0.247)	-1.541*** (0.136)
Baleswar-Ganjam	0.167 (0.174)	0.083 (0.181)	0.205* (0.124)
ST-SC	-0.856*** (0.218)	-0.468* (0.264)	-0.71*** (0.17)
ST-OBC	-1.083*** (0.234)	-0.449 (0.307)	-0.86*** (0.188)
ST-OC	-1.851*** (0.349)	-2.314*** (0.255)	-2.311*** (0.224)
SC-OBC	-0.227 (0.175)	-1.846*** (0.224)	-0.15 (0.132)
SC-OC	-0.995** (0.316)	0.019 (0.204)	-1.601*** (0.194)
OBC-OC	-0.768** (0.335)	-1.865*** (0.28)	-1.451*** (0.217)

Source & Note- Same as Appendix 5 Table 5.

Table 19: - Activity status of dropout individual in the age group 15 to 18 among the migrant households across survey districts, social groups and land holding groups

Variable	Category	Migrant	Working	Housewife	Not working	Total
District	Balangir	89.5 (34)	10.5 (4)	0.0 (0)	0.0 (0)	100 (38)
	Baleswar	42.9 (6)	14.3 (2)	21.4 (3)	21.4 (3)	100 (14)
	Ganjam	60.9 (14)	17.4 (4)	4.3 (1)	17.4 (4)	100 (23)
Social Group	ST	83.3 (10)	16.7 (2)	0.0 (0)	0.0 (0)	100 (12)
	SC	68.8 (22)	12.5 (4)	9.4 (3)	9.4 (3)	100 (32)
	OBC	71.0 (22)	12.9 (4)	3.2 (1)	12.9 (4)	100 (31)
Land Holding Group	LL	69.6 (16)	4.3 (1)	13.0 (3)	13.0 (3)	100 (23)
	MF	72.7 (32)	18.2 (8)	2.3 (1)	6.8 (3)	100 (44)
	SF	75.0 (6)	12.5 (1)	0.0 (0)	12.5 (1)	100 (8)
All dropout		72.0 (54)	13.3 (10)	5.3 (4)	9.3 (7)	100 (75)

Source- Author's Primary Survey 2018

Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other caste/category, LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer, HH- Households. The value inside the parenthesis () explains the number of individuals

Table 20: - ATE of HCI among the sociographical groups

Variable {(a-b) =0}	ATE (Migrant)	ATE (Non-Migrant)	ATE (All HH)
Balangir-Baleswar	-1.371*** (0.147)	-1.043*** (0.166)	-1.291*** (0.113)
Balangir- Ganjam	-0.846*** (0.133)	-0.443** (0.195)	-0.656*** (0.114)
Baleswar-Ganjam	0.525*** (0.157)	0.6*** (0.19)	0.634*** (0.12)
ST-SC	-0.578*** (0.177)	-0.336 (0.241)	-0.487*** (0.143)
ST-OBC	-0.486** (0.191)	-0.704*** (0.239)	-0.659*** (0.153)
ST-OC	-1.606*** (0.249)	-1.928*** (0.241)	-1.91*** (0.175)
SC-OBC	0.092 (0.15)	-0.368** (0.174)	-0.172 (0.115)
SC-OC	-1.028*** (0.266)	-1.592*** (0.235)	-1.423*** (0.175)
OBC-OC	-1.12*** (0.287)	-1.225*** (0.233)	-1.251*** (0.187)

Source & Note- Same as Appendix 5 Table 5.

Table 21: - ATE of LCI among the sociographical groups

Variable {(a-b) =0}	ATE (Migrant)	ATE (Non-Migrant)	ATE (All HH)
Balangir-Baleswar	-1.724*** (0.125)	-1.57*** (0.164)	-1.726*** (0.105)
Balangir- Ganjam	-1.329*** (0.11)	-1.089*** (0.211)	-1.206*** (0.109)
Baleswar-Ganjam	0.395*** (0.136)	0.481*** (0.168)	0.52*** (0.106)
ST-SC	-0.781*** (0.166)	-0.431* (0.236)	-0.649*** (0.138)
ST-OBC	-0.912*** (0.181)	0.737** (0.272)	-0.906*** (0.158)
ST-OC	-1.836*** (0.255)	-2.162*** (0.253)	-2.182*** (0.185)
SC-OBC	-0.13 (0.138)	-0.306* (0.181)	-0.257** (0.112)
SC-OC	-1.054*** (0.247)	-1.731*** (0.211)	-1.532*** (0.161)
OBC-OC	-0.924*** (0.267)	-1.424*** (0.253)	-1.276*** (0.187)

Source & Note- Same as Appendix 5 Table 5.

Appendix 6 (Chapter VI)

Table 1: - Second Reason for Migration

Variable	Category	Repay debt	Regular Consumption Exp	Social Function	Lack of Employment	Other reasons
District	Balangir	26.0	31.4	15.9	13.2	13.6
	Baleswar	11.0	22.9	5.5	27.5	33.1
	Ganjam	5.4	50.8	10.8	23.8	9.2
Social Group	ST	15.5	35.1	11.3	23.7	14.4
	SC	20.3	33.6	10.8	21.6	13.8
	OBC	13.3	37.8	15.8	14.3	18.8
	OC	3.7	51.9	0.0	25.9	18.5
Landholding categories	LL	25.5	26.7	11.2	24.2	12.4
	MF	12.9	43.1	14.1	18.4	11.4
	SF	17.1	24.3	11.4	21.4	25.7
	MDF	2.4	54.8	0.0	14.3	28.6
	LF	8.3	29.2	20.8	4.2	37.5
All migrant		16.1	36.2	12.1	19.6	16

Source- Author's Primary Survey 2018

Note- SC- Schedule Caste, ST- Schedule Tribe, OBC- Other backward class, OC- Other caste/category, LL- Landless, MF- marginal Farmer, SF- Small Farmer, MDF- Medium Farmer, LF- Large Farmer, HH- Households.

Table 2: - Migration Income and hours of work across destination Occupation

Destination Occupation	Wage payment process			hours of work per day	Total Migration Income	Average monthly income in destination	Total Remittance (Advance) Income	No of month stay in destination
	per day labour	Monthly salary	leased Work					
Brick Making	2.0	0.7	97.4	13.6	30367	4908	21816	6.2
brick Loading	10.1	5.1	84.8	12.1	28322	5103	21816	5.6
Industry worker	6.3	93.8	0.0	8.4	104488	10419	59555	9.8
Leave Binding	0.0	0.0	100.0	10.4	25154	5112	16596	5.0
Construction	87.8	12.2	0.0	8.3	93777	10971	59398	8.4
Hotel / Cooking	0.0	100.0	0.0	9.8	88790	8616	55480	10.3
Textile	0.0	100.0	0.0	9.5	101906	10147	66219	10.0
Other	0.0	100.0	0.0	9.3	186200	17100	99450	10.3
All migrant	10.74	48.15	41.11	10.6	69013	7924	43439	8.0

Source & Note- Same as Appendix 6, Table 1

Table 3: - Average Years of Education among Migrant of Major stream, Migrant of non-Major Stream and Non-migrant individual across survey district.

Major stream of Migration	Migrant in Major Stream	Migrant other than Major Stream	Non-migrant
Balangir/ All Caste/ Labour Contractor/Brick kiln	4.3	7.0	4.3
Baleswar/ All Caste/ Educational/ Industry	11.1	9.3	7.1
Baleswar/ All Caste/ Social/ Hotel	7.9		
Ganjam/ All Caste/ Labour Contactor/ Industry	9.3	9.5	5.8
Ganjam/ SC, ST/ Social/ Construction	7.0		
Ganjam/ OBC, OC/ Social/ Textile	8.0		
All	6.9		5.9

Source & Note- Same as Appendix 6, Table 1

Table 4: - Descriptive Statistics of the continuous variable used in GLM

Variable Name	N	Mean	Std. Deviation	Skewness	Kurtosis
Age	571	30.3	10.4	.660	-.440
Year of Education	571	6.9	3.9	-.236	-.406
Per day Working Hours	571	10.5	2.3	.498	-.978
Log of origin Income	571	10.5	1.3	-4.909	37.674
Average Monthly Income in Destination	571	7,884.5	3,176.3	.685	.509

Source- Author's Primary Survey 2018

Table 5: - Frequency statistics of Categorical variable used in the GLM model

Variable	Category	Freq.	Per cent	Variable	Category	Freq.	Per cent
Gender	Male	440	77.1	District wise social group	SC/ST of Balangir	169	29.6
	Female	131	22.9		OBC/OC of Balangir	105	18.4
Marital Status	Married	335	58.7		SC/ST of Baleswar	75	13.1
	Single	236	41.3		OBC/OC of Baleswar	37	6.5
Landholding categories	LL	170	29.67		SC/ST of Ganjam	101	17.7
	MF	265	46.42		OBC/OC of Ganjam	84	14.7
	SF	71	12.39	Migration Network	Labour contractor	291	50.9
	MDF	41	27.33		Education	86	15.1
	LF	24	4.19		Social	194	34.0
					Cooking & Hotel	50	8.8
Total		571	100.0	Total		571	100.0

Source- Author's Primary Survey 2018

Table 6: - Difference in Average Monthly destination Income

Row - Column	1st Major stream	2nd Major stream	3rd Major stream	4th Major stream	5th Major stream	6th Major stream	Other than major stream
Average Monthly destination Income	4984	10000	8618	11096	11710	10282	7597
1st Major stream	0	-5016*** (325.6)	-3633*** (231.3)	-6112*** (227.7)	-6726*** (282.3)	-5298*** (199.3)	-2614*** (196.6)
2nd Major stream	-	0	1382** (570.4)	-1096* (560.3)	-1710** (697.8)	-282 (490.7)	2402*** (483.0)
3rd Major stream	-	-	0	-2479*** (407.7)	-3092*** (442.0)	-1665*** (296.4)	1019*** (351.6)
4th Major stream	-	-	-	0	-613 (494.2)	814** (350.6)	3498*** (336.0)
5th Major stream	-	-	-	-	0	1427*** (383.4)	4112*** (426.1)
6th Major stream	-	-	-	-	-	0	2684*** (302.5)
Other than major stream							0

Source- Author's Primary Survey 2018

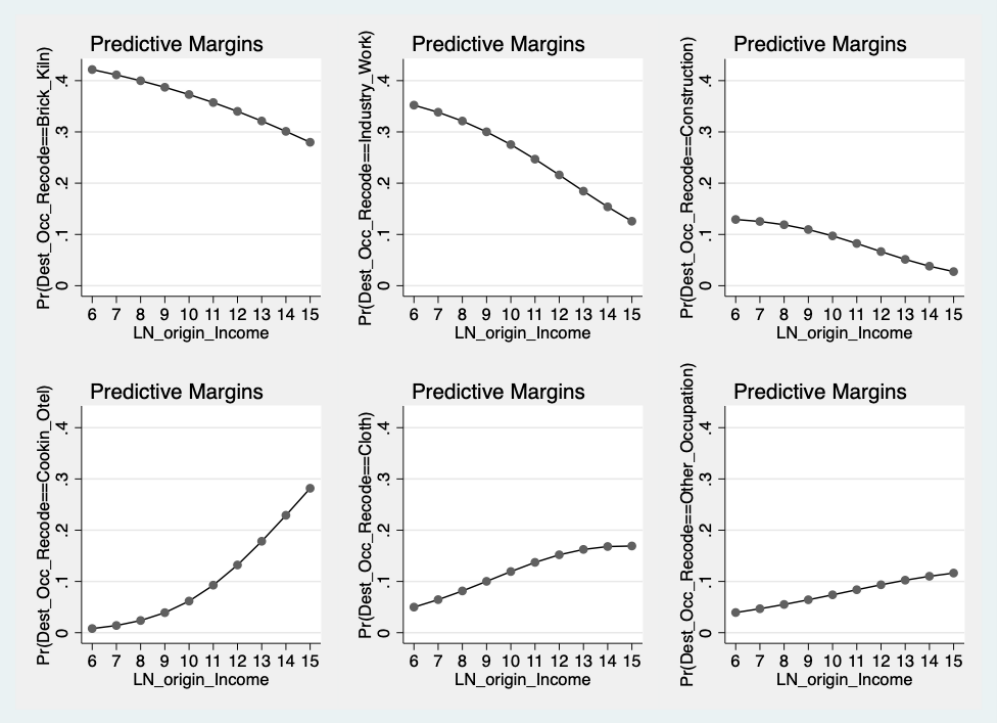
Note- The figure inside the parenthesis () explains the value of stander error. *, **, *** represents level of significance at 10%, 5% and 1% respectively.

Table 7: - Percentage distribution of Average destination Income Over occupational group

Occupational group	<= 5000	5000-10000	10000-15000	>=15000
Brick Kiln	72.5	26.5	0.9	0.0
Industry work	1.4	57.9	36.6	4.1
construction	0.0	55.1	38.8	6.1
Cooking & hotel	0.0	90.0	10.0	0.0
Textile	0.0	70.3	29.7	0.0
Other occupation	29.5	56.8	9.1	4.5
Total	29.3	50.4	18.3	1.9

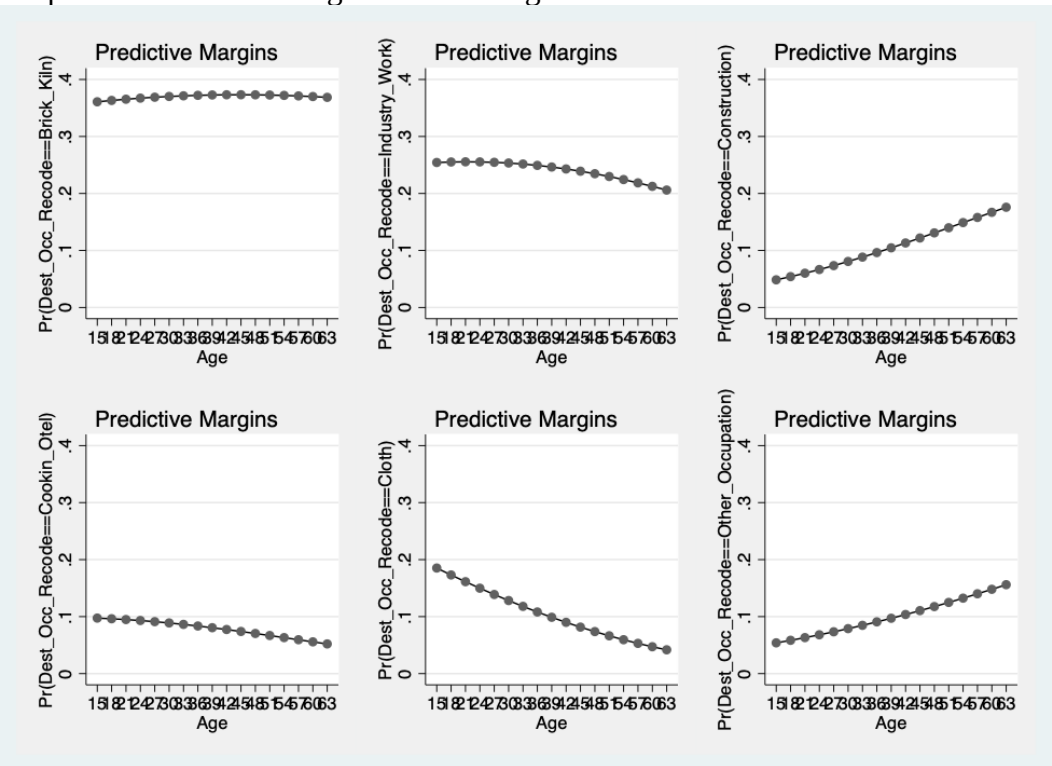
Source- Author's Primary Survey 2018

Graph 1: - Predictive margins curve of the log of Origin Income



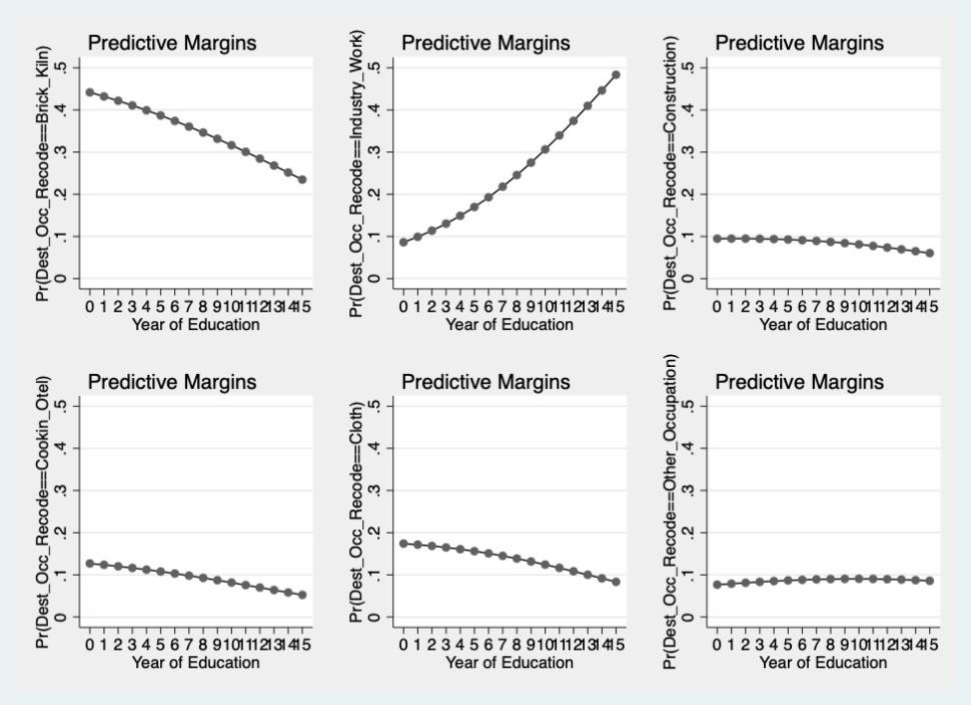
Source- Results of Multinomial regression analysis

Graph 2: - Predictive margins curve of Age



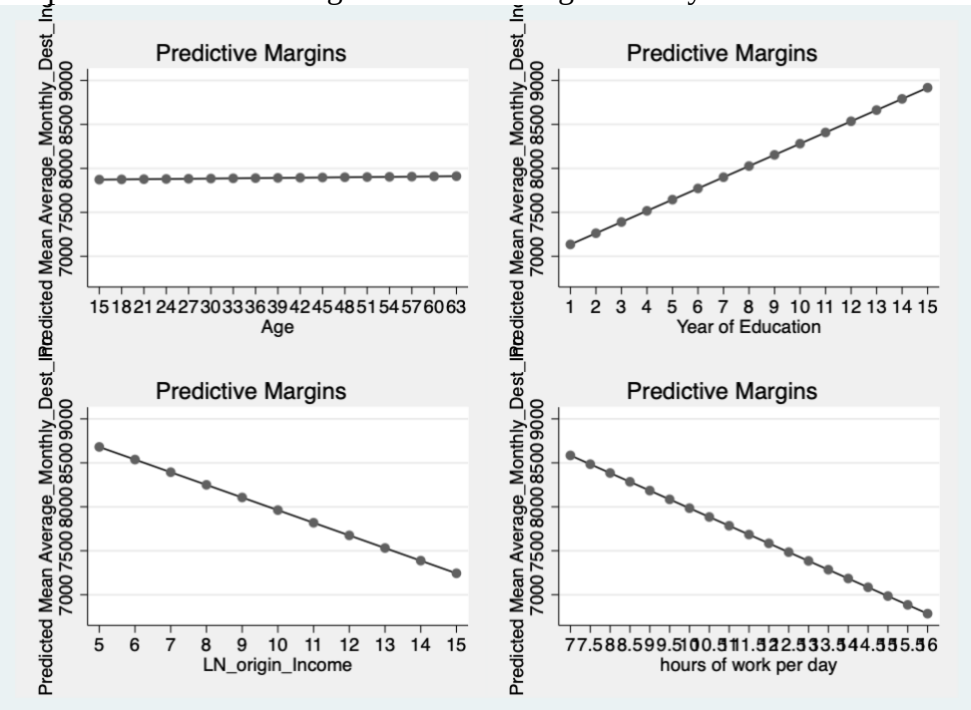
Source- Results of Multinomial regression analysis

Graph 3: - Predictive margins curve of years of education



Source- Results of Multinomial regression analysis

Graph 4: - Predictive margin curve of average monthly income across the continuous variable



Source- Results of Maximum Likelihood regression analysis

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Temporary Migration, Network and Livelihood: A study from Rural Odisha

by Ananda Meher

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Continuity of inter-link rural economy with seasonal migration: A Study of Brick Kiln's Worker from a backward district of Odisha

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Abstract

This paper mainly deals with the cooping strategy of interstate brick kilns' migrant households for their survival at their origin place. This study tries to understand why do the migrant require advance payment and how it is inter link with their economic structure? To explore our argument, we have conducted primary survey of migrant households in four village of Balangir district of Odisha. The survey has mainly focused on socio-economic structure of migrant household and their relation to other market agent in rural economy. We found that interlinked market structure is intensively involved in market transection. The interlink market controls decision of poor households in selling their labour power and output. Which results transfer of income of the poor households as profit or rent for the village dominant households. This interlock market transection has forced them to borrow to maintain minimum consumption expenditure also. So, Interlinked market helped to extent exploitation and unfreedom of poor households in the hand of village dominant group and forced them to migrate.

Key Word: Interlink rural economy, labour migration, Odisha.

I.Introduction

Migration for the purpose of employment is explained either alternative or better opportunity than the current availability. But migration in developing country is matter of survival for the rural poor masses, they come out of agriculture and stock in urban informal job without any employment certainty and risk. The situation of brick kiln is different from the other urban informal economy. In brick kiln labourer do not have employment uncertainty rather they received wage in advance to work in brick kiln. In exchange of advance payment labourer sell themselves to the brick lord and the advance payment directly went for debt repayment (Majumder, 2015; Gupta, 2003). Majumdar also enquiry livelihood condition and circumstances that push the labourer to migrate at their origin/root and working conditions at the destination. It concludes that the debt trap and lack of survival opportunity in agricultural lean season forced the labourer to migrate. To repayment of advance payment through work, labourer households themselves forced their children to work (Ghose, 2004).

why do they require advance payment and how do they spend it? In response to this question, at first we need to check their different sources of income and patterns of consumption. Bhaduri, Bradhan, Rudra, Jodhka, Breman, Brass, Banaji have explored the rural market system in their study. It is the money lender, who acts as a middle man and controls whole rural economy, money lender decides what to produce, where to sell output (Chandavarkar 1965, Bhaduri 1973, 1977, Bardhan and Rudra 1978, Rudra 1987, Gangopadhyay and Sengupta 1987, Breman 1974, 1985, 1993). But they have major differences in their arguments as new institutional economists like, (Bardhan and Rudra 1978, Rudra 1987, Gangopadhyay and Sengupta 1987), avow this interlinkage is due to risk minimization. But Marxist scholars like Bhaduri, Jodhka, Breman, Brass, Banaji proclaim that the interlinked market is another way of exploitation and also a manifestation of Un-freedom that exists in the nature of production relations.

The rural economy suffers from interlinkage of labour market, input market, product market and credit market. Migration could be alternative to the rural problem in which labourer have opportunity to diversify occupation and income generation. But this study tries to find out, how could the rural interlink market connect with interstate migration process? So, this study looks into the market structure of rural economy most specific to the working of labour, product and credit market. In first section, we explain about agriculture, forest product, labour market situation in rural Odisha. In second section it narrates their consumption style, deficit amount and its link with credit and migration process. In last we conclude the whole economic structure of migrant households in rural Odisha and their relation with interstate migration to brick kiln industry.

To substantiate the above objective, we have mostly depended on primary source of information. Main objective of the study is to target migrant households and their relation to different market agent, whose data are not available from any secondary source. So, one of the backward district of Odisha (i.e, Balangir district) has selected for our primary survey. Total sample of 63 migrant households have chosen through stratified random sampling method from four village of Balangir district in which landholding and caste are used to stratify them. First we finalized a list of migrant households through all households survey in the village. In second stage, one fourth of the migrant households have chosen for our sample households. Both Qualitative and quantitative information have gathered through a structure questionnaire method. Apart from primary survey of migrant households, this study has also gathered information from member of village committee through focus group discussion. To address above stated objectives, it has used simple statistics such as average, percentage in cross tabulation.

II. Socio-economic profile of migrant households: -

We have surveyed 63 numbers of migrant households, those are migrating to brick kiln industry[1]. The following table gives broader understanding about socio-economic condition of survey household. The survey households are scattered over regular as well as irregular migrant households. About more than 33% of the households have been migrating every year and about 30% households have migrated 3 or less than 3 years in last 10 years.

Table-1: Year of migration across socio economic indicator

year group	No of HH (%)	age of HH head (average)	female/ male ratio	SC Caste group (%)	ST Caste group (%)	OBC Caste group (%)	land holding (acres)	land less HH
>=10	20 (33)	41.05	1.20	7 (41)	9 (35)	4 (24)	1.86	11(34)
9-8	5 (8)	39.40	1.80	1 (6)	2 (8)	2 (11)	0.75	3(9)
7-6	7 (11)	37.00	1.71	1 (6)	5(19)	1 (6)	1.33	4(12)
5-4	10 (17)	43.80	0.75	3 (18)	2 (8)	5 (30)	0.78	6(18)
<=3	18 (31)	38.06	1.34	5 (29)	8 (31)	5 (30)	1.74	8(25)
Total	60 (100)	39.50	1.95	17(100)	26(100)	17 (100)	1.49	32(100)

Note- HH- Households, SC- Schedule Caste, ST- Schedule Tribe, OBC- Other Backward Class
Source- primary survey of the Author (in 2014)

[1]Out of 63 surveyed household 60 number of households have responded properly, so I am using the 60s' number of households in my analysis.

There is no more difference between age of household head across year of migration. But caste is one of the important factors in elucidating year of migration. More percentage of SCs, STs are regular migrant, around 50% of SC and ST households have been migrating regularly. In OBC, around 60% are migrating 5 or less than 5 years in last 10 years. But land holding scattering do not have any relation with year of migration.The SC households are most vulnerable as compared to other category in access to land so they started migration to different place for their survival. In pre independence they had been migrating to tea industry of Assam. In post independent India SC households had migrated to Villai, Durgapur and Raurkela as construction worker. The migration to the brick kiln side have started in first of 1970. ST households are next followed group to migrate as brick kiln worker. In the end of 1980, OBC households have started migration to brick kiln. In our survey we found that the migration to brick kiln have wide spread in mid 1980s. It is very much clear that the migration is started by SC households and followed by ST and OBC households in that region. For them migration as a alternative way of survival strategy.

II.1 Agricultural Source of Income:- Land holding

The land distribution pattern of survey households by caste is given in table- 2. The average landholding is worse for OBC migrant's households with 0.59 acres. Among OBC, 59% are landless and rest fall under marginal farmer group. The survey does not find any big farmer households migrating as a brick kiln worker. Among ST households 55% landless, 33% marginal farmer and 11% small and medium farmer with average landholding 0.85 acres. For SC households, average landholding is 0.94 acres with 47% landless, 42% marginal farmer and 11% small and medium farmer. This explained that, among OBC only most vulnerable households are migrating to brick kiln activity as compared to SC and St households.

Table- 2 land holding pattern by Caste Group.

Caste group	Average land holding (per HH) in acre	% landless households	% marginal farmer (≤2.5 acre)	% small farmer (2.6 to 5 acres)	% medium farmer (5.1 to 10 acres)	Total
ST	0.85	55 (15)	33 (9)	11 (3)	0	100 (27)
SC	0.94	47 (9)	42 (8)	5 (1)	5 (1)	100 (19)
OBC	0.59	59 (10)	41(7)	0	0	100 (17)
TOTAL	0.82	54 (34)	38 (24)	6 (4)	1.5(1)	100 (63)

Source- Author's primary survey-2014.

Cultivation or Cropping Pattern

Study of cropping pattern is important to understand agricultural income of the cultivator. Around 78% of land is used in food grain and 22% are used in non-food production in Survey district (Balangir)[2]. This situation is more clearly visible in the survey village. We found that, the migrant households have used 52% of their land for paddy and 45% for cotton production and rest 3% land used for vegetable cultivation. Percentage of area under paddy production decreases with the increment of size of landholding and it is opposite in cotton production. The main cause of this divergent is that, the farmers cultivate paddy in area which give them minimum consumption level of rice and rest area use for the production of cotton. Secondly, the cotton production is interlinked with credit market. All the input cost of cotton production is available in credit under input

[2]Data Source- Deputy Director Agriculture, Balangir District (2012)

lender. Table-3 has clearly shown this interlock product market structure. Firstly, the farmer does not have money to invest in agriculture and secondly, all input cost of cotton production is available in credit. So, this interlinked market structure main cause for the expansion of cotton production in the survey area. There is a divergence of cropping pattern towards the cash crop under the condition of interlock market.

In survey we found that, average price of paddy per kg is 7 rupees which is 6 rupees less than minimum support price (MSP of paddy in 2013 was 13 rupees per kg.). Average price of cotton is 39.5 rupees, which is almost same as MSP (Minimum support price) as 40 rupees per kg. Selling price of cotton increases, with increasing size of landholding. So, this price differentiation depends upon position of the cultivator and his bargain powers. To understand the pricing structure of both products, it's important to see the producer and purchaser relation.

In paddy production, cultivator purchases input as fertilizer, pesticides from private store, none of the survey households has access to cooperative society (govt. Input center). 75% of cultivating households purchase input at more than MRP (maximum retail price) of input. This high price is maintained as interest for late payment to input seller. Mostly, they produce paddy for their own consumption, but in emergency they sold to local shopkeeper at range of 5 to 10 rupees per KG.

Table-3 Cropping Pattern of the labour households

Land holding group	PADDY					COTTON				
	% area under prod.	% of producer	Average area (in acre)	Per acre (in KG)	Average price (in KG)	% of area under cotton prod.	% of producer	Average area under production (in acre)	Per acre (in KG)	Average price (in KG)
LL	80	6 (2)	1	1225	7	20	3(1)	0.5	400	40
MF	67	92 (22)	0.9	1262	8.5	31	37 (9)	1	372	37.5
SF & MDF	25	100 (5)	1.2	2010	7	70	100 (5)	3.2	353	41
total	52	46 (29)	0.96	1511	8	45	24 (15)	1.7	360	39

Source- Author's primary survey 2014

In cotton production, cultivator gets all his inputs on loan from input lender as loan. These input lenders are mostly traders and moneylenders located in local town, not in the cultivator village. At the time of giving input they are charging more than MRP on input to maintain interest income. These input lenders are also providing cashloan to cotton cultivators, on which they charge 5-8% interest rate per month. Once any cultivator takes input on loan then he is bound to sell his output to that input lender only. So, this input loan interlocked the cultivator through credit. The input lender can extract profit or surplus in three ways. Firstly, the input lender charges higher than MRP on input, it is about 87% cotton producer reported higher price charged by input lender. Secondly, the input lender earns interest income on cash loan to cotton producer and the chance of default of this loan also negligible as the borrower interlocked through cotton production. And thirdly, the input lender benefited by purchasing cotton output at less than MSP. In drought and unseasonal rain year, the total payment to input lender is more than their total output value, so the farmers are forced to take advance payment from labour contractor to repay the loan of the input lender. This renders the cultivator in a debt trap and forced to migrate to brick kiln industry.

The relationship between the cultivators and input lenders is also linked with past relation. Most of the input lenders were paddys' trader, the cultivators were interlinked with them through selling of paddy and moneylending. These input lenders are mostly from OBC (Placeholder3) and Marwari caste group. So, the interlock relation between the farmers and input lenders-cum-trader has continued over time with changing crop.

II.2 Forest Product Market

Forest is another source of income for these migrant households. 27% of the land cover forest area in Odisha which gives several types of product as timber, wood, *Kendu* leaves and *Mahuwa* flowers and seed in major and Chironji (char), Sal leaves and seed, honey, Myrobalan, gum, Lac etc. in miner amount. Balangir district also have same type of forest product in its 25% of forest land. Most major forest products are available in January to May month. In field survey, about 54% (34 number) of migrant households are not collecting any forest product due to migration. Rest 46% households whose old members and young child are staying at home due to education and to take care of cattle, goats and also collecting forest product.

In most households, Forest product is collected by old person as they are not able to do hard work. Per households *Mahuwa* collection is 86 kg and *Char* is 48.5 kg, which they sell at 14 and 35.7 rupees respectively. The average income from forest collection per households is around 3000 rupees. This income could be around double if the people have access to government center with MSP (MSP of *Mahuwa* is 22 rupees and for *Char* is 100 rupees). The difference between MSP and local market price is about 8 rupees and 65 rupees in case of *Mahuwa* and *Char* respectively. So, the average loss of income per households by selling at the local market is around 4000, which is taken by middlemen as extra profit.

The relationship of buyer and seller is important to understand the process of price decision. All the survey households sell their forest product through *Kuchia*. This *Kuchia* is a agent of big trader, the big trader stays in local town, and employed some middleman as *Kuchia* to purchase *Mahuwa* and *Char* from people. These traders pay some money to *Kuchia* in morning, according to their capacity to purchase and at evening *Kuchia* reported with product and take a commission from the trader on the basis of amount of collection. The commission is 1-2 rupees per kg of *Mahuwa* and 5-7 rupees per kg of Char. These *Kuchias* are very technically cheating to people in weight; this is extra profit for them.

Table 4: collection of Forest Product

Land size group	Name of forest product	No. HH collecting forest product	Average collection per HH	Average Price	Average Income
LL	Mahuwa	15 (44)	67.5	14	945
	Char	12 (35)	35	34.6	1211
MF	Mahuwa	12 (50)	92.7	14.3	1325.6
	Char	9 (37.5)	53.5	36	1926
SF & MDF	Mahuwa	2 (40)	160	20	3200
	Char	2 (40)	80	43	3440
total	Mahuwa	30 (48)	86.3	14.3	1234
	Char	23 (36)	48.5	35.7	1731.5

Source- Author's primary survey 2014.

Around 20% of the survey households are also collecting firewood from forest and sell it nearer local town. They sell one cycle of firewood at 120 to 150 rupees; this collection of firewood takes around one and half day of work. If any forest officer catches them, either they pay 500-1000 rupees of bribe or left the bicycle and firewood and run away from the place. Only 25% of survey households are engaged in collecting of firewood, and they have averagely 4-5 trips in a month until the time of migration. They collect firewood only due to lack of demand for wage labour even in agricultural season also.

II.3 Labour Market Structure

Agricultural labour market

Next alternative income source for the poor household is selling his own labour power in different farm and non-farm activities. Most of the households engage in supply of labour power in farm activities. Average farm unskilled worker wage rate in Odisha was 170 rupees in 2014 and 140 rupees in 2013 (Labour bureau statistics 2014, Odisha). These wage rates are far more than the actual wage rate reported in survey village i.e, 80 rupees.

The averagely 63 days of farm work is done by per household in a season (mostly between June to October). It also decreases with increasing the size of landholding, 75 main working days for landless to 31 main working days for SF & MDF, as the landholding households supply their labour services to own cultivation. The average wage rate is around 81 rupees and the wage rate decrease with increasing size of landholding. This is because, the landholder first engages themselves in their land in peak labour demand time later they supply labour service at a low wage rate. Averagely male person gets 10 rupees higher wage than their female counter part. The households are mostly from SF & MDF do not have interest to supply labour service for agricultural work due to very low wage rate, but they have interest to supply labour service to non-farm, MGNREGA work. Three households from small and medium farmers never work as farm labourers.

Table-5: Agricultural labour market structure

Land size group	Number of HH engaged in farm labour	Average day of work (per HH)	Average wage rate
LL	34	75	83
MF	24	55	81
SF & MDF	2	31	77
TOTAL	60	63	81

Source- Author's primary survey 2014.

The survey does not find any attached labour in agriculture even on a yearly basis. But the landless households, work under one land holder for one season on daily wage basis to repay part of their loan, at the same time they can work for more than one land holder also. About 67% among the landless labourers work partly under big landholder to repay their loan, this percentage is 58% for MF. This small interest free loan is mostly due to the consumption purpose but with a guarantee of supply labour service in peak demand season.

The average wage rate is more clearly explained if we look at the data on village wise. The wage rate decreases with distance from the local town and more interior area, it ranges between 60 rupees to 100 rupees. If we go further inside about decision of the wage rate, it's nothing but an ar-

tificial decision of the village committee (v.c). Now it is important to understand the village committee idea, politics and working to explain farm wage rate decision proces. This understanding also answers the dominance household's politics through village committee.

Working of Village Committee

We interviewed two village committee in Ghusuramuda and Barbandh village. Ghusuramuda and Brabandha village committee have 15 and 9 persons are working member respectively. This village committee is combination of village head (Gantia), the village priest, other dominant senior person and local political member (ward member / Sarpanch), woman does not have membership in village committee. In dominant senior person group, mostly the big landholders are represented in village committee. Except local political member (ward member) all other memberships are continued through generation. After every election the new elected member enters into the village committee.

This village committee has the responsibility to maintain the proper use of village public resources. So, it started from the use of water of the village tank and its irrigation process. And also the village committee solves the conflicts of resource distribution among the individual both community and private resources case. Second role is to decide the maximum farm wage rate, with the logic that the poor farmer affordability. The big land holder sits in a group and decide the maximum wage rate what they are going to pay to the poor labourers, marginal and small farmers. Why do the labourers accept this wage rate and work under the landholder? Firstly, the labourers fully/ partly depend up on the big landholder through credit and employment market. Secondly, the recognition of village committee, which is a supreme body in the village. The village people have argued that the village court decision is superior to high court decision *(Gan court ke ni pare high court)*. Thirdly, the village committee is morally controlling people through celebration of Hindu religious festival.

Non-Farm Labour Market

Non-farm sector is the activity other than farm work, it includes both formal and informal sector, but for these labour group, formal sector job is a dream. Most of the construction works are available in the local area and in local town. Within the village most of the non-farm work is to maintenance of house. Some are also working under trader for loading and unloading of paddy, Mahuwa, Char etc. All of them work under informal sector in the construction of road, building, and loading of goods in train, blacksmith, carpenter, and cobbler. In 2014, all Odisha construction worker actual wage rate for male is 190 rupees and for female is 140 rupees[3]. But in the survey, we found that the unskilled construction labourers wage rate is around 105 rupees per day. Averagely, the landless households are getting less wage rate than other marginal, small and medium farmer.

Table 6:-Non-farm labour market system.

Land holding group	Number of HH engaged in farm labour	Average day of work (per family)	Average wage rate	Average difference between farm and non-farm wage
Land less	34	58	95	23
MF	24	50	104	23
SF & MDF	4	40	120	32

[3] Labour bureau statistics 2014, Odisha

TOTAL	62	54	103	24

Source- Author's primary survey 2014.

If we look at the decision of non-farm wage rate, most of the households have reported strong relation between farm and non-farm wage rate decision. The farm wage rate is the base wage rate and other wage rates are deciding relative to farm wage rate. So, the decision of non-farm wage rate is 10 to 20 rupees more than the farm wage rate. We found that the average difference between farm and non-farm wage rate is 23 rupees.

This relatively decision of wage income of the casual labour could also extend to the piece rate decision process. Let's take an example of piece work of farm sector, let a farmer have 10 acres of land, and 10 wage labourers can cut one acre of crop in one day. So, the landholder wage payment will be 800 rupees (80 wage rate X 10 labourers) per acre. In that way, for the crop cutting in 10 acres of land, the landholder will spend 8000 rupees (800 x 10 acres). If the landholder gives the crop cutting in piece rate to a group of 10 labourers, then the landholder will try to fix the piece rate cost within 8000 rupees. If the wage rate will be 100 rupees than the landholder tries to fix the piece rate cost within 10000 rupees. The less agricultural wage also impacts on piece rate. This argument can also extend to non-farm sector. The piece rate agricultural work is found in relatively high wage rate villages (Sahaj Pani, and Ghisuramuda). So, the piece work is technically used by the employer to control over casual labour market and wage rate also.

Implementation of Job Card and Ration Card

MGNREGA is another form of non-farm works available for survival of poor people. This MGNREGA was started from 2005 in the name of NREGA, with the assurance of 100 days work to each household in a year. Its wage rate was 126 in 2012, which increase to 143 in 2014 and 164 from 1st April 2014. To solve the brick kiln migration (Dadan labour) problem, Odisha govt. have increased the number of days of work from 100 to 150 days under MGNREGA from 1st April 2014.

From Panchayat data, averagely 17% among the card holder have only worked under MGNREGA and rest 83% did not work. It does not mean they do not require MGNREGA work rather they cannot sustain their life in late payment of MGNREGA. Average time difference between work and payment period is around 2 months. Landless and marginal farmers not able to sustain, if they do not get at least weekly payment. Average day of work among the working households is 46 days out of which 11% work more than 100 days also.

If we look at the percentage of card holder work under MGNREGA, it increases with the size of landholding. Because the landholders are not interested to work under any private person, they prefer to do MGNREGA work. And the late payment also adds not much problem for them as they already have some incomes to sustain themselves. If we look at the caste pattern, tit is the OBC card holder works more percentage compared to SC and ST Households. The survey finds, that the average number of days of work under MGNREGA is 23 days which is much less than the Panchayat data. It explained that the migrant households work less days under MGNREGA than the non-migrant households.

II.4 Household's Assets

The survey does not only confine to the household's direct income but also it interested in asset holding structure. Household assets not only explain household economic condition, but also it helps in emergency to create easy access to informal credit too. Table-7 is given details assets and house renovation pattern. Households usually do not have more assets than their minimum requirement and income generating assets. In survey, none of the household has more than a bicycle and TV. TV also accessible to only 60% of the households. One quarter of households has not electrified and those are electrified, 70% among them are govt. supplied BPL connection elec-

tricity. The quality of electricity supply is very bad condition. Averagely only 10-12 hours of electricity supply available with very low voltage.

In housing structure, only 9% households have IAY (Indira Awas Yojana), which provides 35,000 of money for one room construction with RCC roof, but all households have constructed two rooms with tile roof. One way this IAY increase their real income by decreasing their expenditure on house construction. About 44% of households construct or major renovation of their house privately in last three years, which cost them around 15000-20000 rupees. This construction or major renovation of house expenditure mostly from the advance amount of the brick kiln. So, it's the greatest thing they can do through 10-12 year of continues migration. Most of the house has two rooms, mud wall and tile roof. The biggest improvement of their house is from one room to two rooms and thatched roof to tile roof after migrating 10-12 year. In Agricultural assets, none of the migrant households have any modern agricultural equipment, most of them having sickle, axe and spade. 40% of the migrant households have bullock plough and bullock cart.

Table 7:-Assets holding of households

Land holding group	% of HH - IAY	% of HH Electrification	% of HH with bicycle	% of HH with TV	Major renovation of house in last 3 years
Land less	12% (4)	68%(23)	30 (88%)	18 (53%)	13 (38%)
MF	8%(2)	83%(20)	24 (100%)	16 (67%)	13 (54%)
SF & MDF	0	100% (5)	5 (100%)	4(80%)	2 (4O %)
TOTAL	9% (6)	76% (48)	59 (94%)	38 (60%)	28 (44%)

Source- Author's primary survey 2014.

II.5 Patterns of Consumption

To understand the income deficit of migrant householdsit is required to analysis their patterns of consumption also. In field survey, we have also gathered information related to consumption expenditure of migrant households. It includes food as well as nonfood consumption and also expenditure on social ceremony. The expenditure on festival, gift and ceremony are closely connected with their social life and dignity. So, these expenditures are not luxury spending rather it basic needs to sustain their social life. The study much interest to analysis the gift, ceremony and festival expenditure of the households. Because these expenditures required lump sum money to spend, which force the labourer to take loan or advance payment (also see Breman, 1984).

Chandrasekhar, Das and Sharma (2014), argue that the short term migrating households have low monthly per capita consumption expenditure (MPCE) than the non-migrant households in rural area. Because the shortterm migrants are working mostly in informal sector with low wage, which decrease their quality of life. Dutta and Panda (2012), have stated that the trickle-down effect of growth may work to increase the MPCE of the poor households. Krishnaswmay (2012) says that the impact of drought on rural poor is less than the urban poor due to government welfare program, but in rest year urban poor are better than rural poor. All these papers explain the increase in MPCE but comparatively rural shortterm migrant's MPCE increases slower than the non-migrant households MPCE trend.

Table 8:- Consumption Expenditure on Food and Non-Food Item.

Land holding group	Monthly food exp. (% of total exp.)	Monthly non-food exp. (% of total exp.)	Monthly total exp.	Monthly cloth and foot wear exp. (% of non-food exp.)	Monthly health exp. (% of non-food exp.)	Monthly festival, and gift exp. (% of non-food exp.)	Monthly house maintenance exp. (% of non-food exp.)
Land less	2125 (48)	2260(52)	4348	535 (24)	425(19)	930 (41)	152 (7)
MF	2160 (47)	2443 (53)	4603	530 (22)	405 (17)	1083 (44)	151 (6)
Sf & MDF	2615 (41)	3770 (59)	6385	800 (21)	1035 (27)	1516 (40)	132(3)
TOTAL	2177 (47)	2450 (53)	4626	554 (23)	465 (19)	1035 (42)	143 (6)

Source- Author's primary survey 2014.

Table 8 is explained that the percentage of food expenditure out of total expenditure decreases as the size of landholding increases. Within non-food expenditure, the landless and marginal farmer households give much importance to cloth, footwear and festival than their health expenditure. But the small and medium farmer households give more importance to health as compared to landless and marginal farmer households. The demand for health care service is directly related to their size of land holding.

II.6 Deficit Amount of the Labour Households

This section explains the linkages among the income, consumption and deficit amount with the debt amounts of migrant households. The net average income, consumption and deficit amount of the households across size of land holding is illustrated in table-9. The average income and consumption amount of the household increases with the increasing size of land holding. The deficit amount is also positively related with the size of land holding, this shows that the rate of increase in income is less than the rate of increase in consumption expenditure. The average deficit amount of the migrant households is around 21260 rupees. On the basis of social categorization, Dalit households are the most worse off, according to their average income position, next worse off is the Adivasi household and the average income of OBC households is better than rest two social group. This higher income of the OBC household is due to their engagement in their caste occupation as Barber, Carpenter, iron smith etc. But the deficit amount is also more for OBC households due to their higher consumption expenditure as compared to Dalit and Adivasi households. This study found that the average deficit of the Dalit households is around 29745 rupees and for the Adivasi and OBC households it is around 32370 and 33215 respectively.

Table 9:- Deficit amount of migrant households on the basis of landholding group

Land holding group	average net income from agriculture	average net income from forest product	average income from farm labour	average income from non-farm labour	average other source of income	average total income	total per year Con. exp.	deficit amount
LL	450	960	5530	7130	3900	17504	51616	33600
MF	7137	1400	6600	6610	1850	23580	52106	28530

SF & MDF	23700	3258	2590	6150	0	35698	76602	40904
total	4832	1310	5702	6625	2795	21260	53510	31805

Source- Author's primary survey 2014.

To meet these deficit amount most of the labour households has taken loan from the informal money lender. The information about the average informal debt of the households on the basis of land size group is given in Apendix-1. Percentage of household access to informal credit and amount debt is increasing with increasing land holding size. The annual interest rate has a decline trend over increasing land holding group. Average debt amount of landless, marginal and small, medium farmers are 13370, 17409 and 24000 respectively. The debt amount of the land less migrant households is accounting of 40% of their deficit income, and it is 61% and 59% for marginal and small, medium farmer.

III. Conclusion

In the product market, the cotton production is directly interlocked with input lender. The cotton producers are in compulsion to sell cotton output to their input lenders. In forest product, people have lack of information about the MSP and late payment in government center force the households to sell their product to middleman at very low price. The farm labour market is indirectly interlocked through village committee. The dominant class and caste people exploit and extract the poor household income through maintaining maximum farm wage rate in village committee. The non-farm labour market also closely relate to farm labour market in wage rate decision. After this interlocked economy system, the next alternative for the labourer households is the MGNREGA, but the late payment system in MGNREGA destroys the whole goodness of the program. At last, but not the least, the interlinked of product and labour market in the one hand and failure of the implication of government programs in the other hand, are directly affecting the people's alternative opportunity of income and compel the people to take advance payment and migrate. The interlocked market structure have been decreased the migrants' income from difference sources. Secondly, the survey households are forced to borrow for their minimum consumption expenditure also. Interlinked market helped to extent exploitation and unfreedom of poor households in the hand of village dominant group.

From the analysis of the consumption data and deficit amount, we can argue that the whole distress is very technically created by the rural dominant elite. So, this can be concluded that the distress nature of migration and rule out the claims that the migrants get into debt trap because of reckless spending. Most of the households have deficit income to maintain their minimum consumption expenditure which they adjust through loan. To repay this loan they do not have any other option than migration by receiving advance payment from labour contractor. So, this whole process of migration is developed and sustain for a long period due to the creation of distress from their origin place and the migration is part of their survival strategy in rural Odisha.

Apendix-A:- Informal credit of migrant households on the basis of land size category.

Land holding group	No. of HH had debt	% of HH had debt (WOC)	Per HH debt amount (WOC)	Average interest rate (WOC)	% of HH had debt (WC)	Per HH debt amount (WC)	Average interest rate (WC)	Average debt amount
LL	30 (78)	27 (90)	13300	120	3 (10)	14000	48	13370
MF	19 (79)	16(89)	17580	110	3 (15)	16500	36	17409
SF & MDF	5 (100)	5 (100)	24000	96	0	0	0	24000
TOTAL	54 (80)	48 (90)	14580	118	6 (11)	15250	43	14654

Source- Author's primary survey 2014.

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