Rural-Urban Migration in Bihar: A Case Study of the Village Saurath

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Forward

Traveling to Saurath signifies the most exciting and interesting journey I have ever undertaken. I started my trip from New Delhi and rode on a train named the Garib Rath, or poor persons train. The fare was only Rs. 600 because the route was designed for low-income individuals traveling to and from New Delhi and Bihar. During my 25-hour journey on the train, I came into meaningful contact with the type of people that I intended to study through my trip—migrants. As strangers soon became friends, I learned much about the lives and aspirations of migrants. One person of note came in the guise of a young man on his way home from university in New Delhi. Smart and engaging, the young man had dreams of studying in the United States. We discussed various subjects, bonded over samosas and chai, and then parted ways. Even though we came from different worlds, the hope and optimism that he carried with him validated my belief in the people of rural India.

Acknowledgements

This thesis could not have been completed without the help of many individuals, as they provided critical feedback, support, and guidance to me. I am grateful to have such individuals in my life that I can call friends.

I would first and foremost like to thank Drishtee and Satyan Mishra for providing me with the opportunity to work in Saurath, as their support and guidance helped me during my research. I would also like to thank Juhi Jha for helping with data collection; without her help this project would not have been possible, as she introduced me to many individuals within the village and also provided logistical support. Additionally, I would also like to thank Bipin Bihari Jha for letting me stay with him, and for being such a wonderful host. The kindness that he showed to me, made me truly feel like part of his family.

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My thesis encompassed a large scale household survey which required a great deal of data entry and cleaning. I would like to acknowledge the efforts of Rupal Shah, as she helped me create the data set; and her company made the tedious process of data entry all the more enjoyable. I will always remember sitting in 2-225 all day long toiling away at the spreadsheet, while drinking copious amounts of coffee and listening to music.

Alice Berg also deserves acknowledgment for being a relentless editor and critic. She not only transformed the way I write, but also instilled within me a dedication to write better.

I would also like to thank my immediate family: Mom, Dad, Awais, Alamgir, and Fakhra, for providing me with the moral support during this effort. It was a long process that had its ups and downs, and their unwavering support buoyed my spirits and provided me with the optimistic outlook to keep moving forward.

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ABSTRACT

This thesis undertakes both a comparative study and a logistical regression analysis on household level data from Saurath, India, to better understand the inducing factors of out-migration. A considerable body of literature related to migration already exists; however, this study contributes to the literature by providing a case study of migration in Bihar, a state that is in the process of an economic transformation. This thesis determines that migration from Saurath is occurring within the middle-class; this is an interesting finding because migrants typically come from more economically depressed groups. The departure of individuals from the middle-class indicates a shift in village life that could have profound consequences in the decades to come. Additionally, from the regression analysis: caste, local occupation, and local household income per capita, are significant inducing factors of rural-urban migration in Saurath. Any organization or individual interested in understanding the phenomena of rural-urban migration may find compelling insights from this thesis, and it is hoped that further exploration of the topic occurs in the near future.

Keywords: India, Bihar, Saurath, migration, remittances, caste, economic development, logistic regression

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Contents

Chapter 1 - Introduction

Introduction

Rather than how quickly urban areas are modernizing, India's assent has more to do with its rapidly growing urban workforce composed of internal migrants. While these migrants come from various socio-economic backgrounds, they still have one thing in common—they left the familiarity of their native villages for the unknown of metropolitan India. To be a migrant is to be a gambler, where the prospect of making it big is the payoff. The courage and sustained determination necessary to succeed in the face of many obstacles is one of the defining characteristics of a migrant. These individuals can be found in urban India, working in various sectors such as: professional services, transportation, hospitality, construction, and many more. While the migrant lives a thrifty existence, their hard-earned wages from long hours of toiling are sent back to their families so that they too can live a better life. Understanding the conditions of the families left behind in the villages is essential towards bringing about clarity to the issue of migration and the factors that drive such activity.

Thesis Question

Rural-Urban migration is a phenomenon that is context specific since different patterns emerge at the national, sub-national, and local levels. Various theories have been developed to try and understand this phenomenon. Some theories have approached the problem from a macro-level, while others have approached the problem from a micro-level. Even with such intense scrutiny, a clouded picture remains as to the factors that induce migration, especially internal rural-urban migration.

The present investigation purposes to bring more clarity to the subject matter by examining a specific case of migration from the Indian village Saurath. This thesis addresses the following question: What are the social and economic factors that induce out-migration from Saurath; and in what conditions do that families left behind live. To examine the factors that contribute to out-migration, the author used data collected from a

household survey in conjunction with a statistical model. Informed by this evidence-base, the author provides areas of further exploration which can be examined by researches in order to develop a better understanding of this occurrence.

Roadmap of Document

The introductory chapter provides background information on India, Bihar, and Saurath. The second chapter provides a literature review on migration, with an emphasis on the different theories related to migration and remittances. In addition, the social and economic effects are discussed. The third chapter provides details on the methodology employed for the survey. Topics in this chapter include quantitative and qualitative methods, survey bias, and limitations of the survey. The fourth chapter provides a thorough analysis of the survey data collected in Saurath. The fifth chapter engages in a comparative analysis of households with a migrant and those without. The sixth chapter discusses the logistical regression model that was used to understand the factors that influence migration. The final chapter summarizes the information gleaned through this study, and also provides so recommendations for future areas of research.

Background on India

Economy

After obtaining Independence India pursued an economic policy that closely mimicked the Socialist Republics of the time. These economic policies, coupled with a high level of bureaucracy and government regulation, were quite disastrous to the nascent nation. Due to a financial crisis in 1991, the Government implemented an array of economic reforms. These reforms helped dissolve economic barriers and improved the macro-economy at an increasingly rapid pace (Ahluwalia 2002). Demonstratively, the average rate of growth has been 6.6% per annum over the past 20 years.

Even though India is transforming towards a more human capital focused economy, service, industry, and agriculture still remain the primary economic sectors. These sectors account for 55.6%, 26.3%, and 18.1% of gross domestic product (GDP), respectively[1]. However, the labor composition of these primary economic sectors does not mirror these GDP-specific proportions. Though it contributes least to India's GDP, agriculture accounts for more (52%) of the total labor force than service (34%) and industry (14%) combined[2]. Even though the overall share of agriculture as a percentage of the total economy has decreased over the years, the majority of labor is still engaged in the agricultural sector.

People

One of the most unique aspects of India is the caste system. This system was developed during ancient times in order to enforce the division of labor amongst the people. Four major caste categories within India have been recognized by the central government: general caste (GC), scheduled caste (SC), tribal caste (TC), and other backwards caste (OBC). One can further subdivide these four major castes into a myriad of castes and sub-castes. Caste plays an integral role in the lives of the Indian people as it influences occupational, educational and social outcomes.

Members of the GC group, particularly Brahmins, have the greatest social standing in the four-tier hierarchy. Although they exist as a minority, the castes in the GC category have traditionally wielded positions of power. The GC has established and retained its authority by imposing social constraints upon the other castes. Revealingly, members of the GC group dominate both the public and private sectors (Palshikar 2006).

The OBC category encompasses castes that have been designated by the Indian government as economically and socially backward. The pejorative term "backward" is the official terminology used by the government, which reveals their attitude towards this group. Castes deemed OBC are relegated to living a life of limited employment options

[1] CIA Fact Book: https://www.cia.gov/library/publications/the-world-factbook/geos/in.html
[2] Ibid.

and social mobility. The lack of social mobility hinders this group from realizing their full potential.

Constituents of the SC category are known as Dalits. Known as the "untouchables" prior to Independence, Dalits have historically been marginalized by society. Even though the Indian Constitution outlawed the designation of "untouchable", the practice remains in rural India. The term "untouchable" originates from ancient times when the division of labor required Dalits to engage in occupations that were deemed ritually impure, such as working in dangerous and unsanitary conditions. The persistent social stigma attached to Dalits constricts their social mobility and has contributed to their lower incomes and educational levels relative to other castes.

Background on Bihar

Bihar is geographically located in East India and is bordered by Uttar Pradesh, Jharkhand, West Bengal, and Nepal. The state is highly rural with around 90% of the its inhabitants living in rural areas (Census of India 2011). With a population of approximately 100 million people, Bihar is the third most populous state after Uttar Pradesh and West Bengal (World Bank 2005). While ancient Bihar is characterized by a rich history of learning and education, the economic and social well-being of Bihar declined during the Mogul and subsequent colonial period.

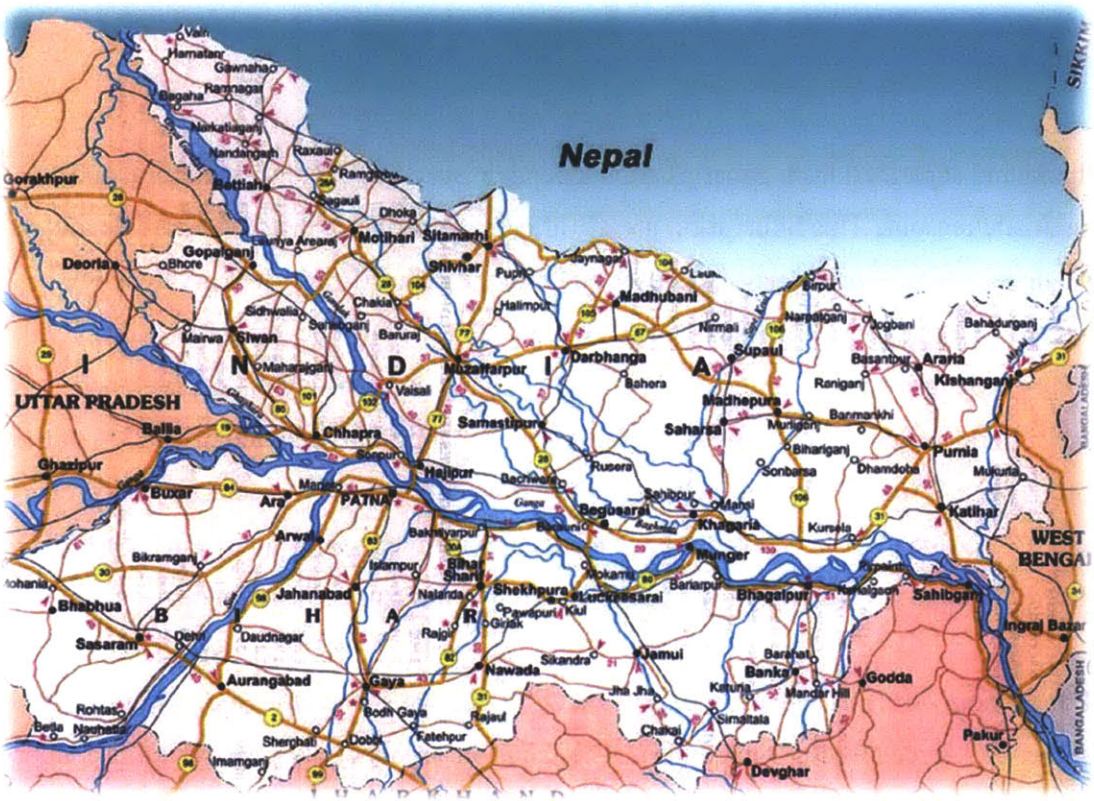

Figure 1-1. Map of Bihar.[3]

Contemporary Bihar is a basket case. The lack of effective governance from the 1980's through the early 2000's, lead to the dissolution of political, social, and economic structures. The state suffered from elite capture that ultimately precipitated its economic decline. During this time, the state became infamous as a nexus of banditry, criminality, and overall dysfunction. However, the new Chief Minister has implemented a great number of reforms to restore stability to the once chaotic land (Panagariya 2012). The reforms that were implemented have become a model for other dysfunctional states in India (Thottam 2011).

[3] Source: http://www.incrediblebihar.info/

Economy

Jharkhand separated from Bihar as an independent state in 2001 due to cultural and linguistic reasons. This bifurcation greatly affected Bihar since it left the state devoid of the major revenue-producing industries and mineral deposits prevalent in the newly formed Jharkhand (World Bank 2005). This economic deficiency hindered Bihar's ability to industrialize, and thus left the state with a predominately underdeveloped agricultural sector. According to the World Bank, agriculture accounted for 23% of the Gross State Domestic Product (GSDP) in Bihar prior to the 2001 separation, as compared to 39% in 2006 (World Bank 2005). The increased percentage in agriculture indicates that the state lost a significant portion of its industrial sector to Jharkhand.

The economy of Bihar depends heavily on agriculture as this sector employs about 80% of the workforce (World Bank 2005). The focus on simple agriculture, which is a labor-intensive low margin activity, perpetuates an agrarian economy that is unable to transition into more value-added activities. In addition, Bihar does not have a favorable geography and chronic floods and droughts plague the area. These natural calamities result in economic shocks that are felt throughout the economy. Alarmingly, these shocks cannot be mitigated because the workforce is mostly agrarian, and the industrial sector is too small to employ more workers.

Despite its economic problems, Bihar shows promise in a few areas and could build upon these areas to strengthen its economy. The state is the largest producer of spices, second largest in vegetable production, and third largest in fruit production for all of India (Chakravarty 2011). With its highly fertile land and abundant water resources, Bihar has an enormous advantage in productive capacity over other states. Of note, an incredible GDP growth rate of 14.15% was reported in 2011 (Chakravarty 2011). This promising economic climate has attracted domestic investment in agriculture and industry.

Background on Saurath

Saurath is a small village located in the Madhubani district of Bihar. The Madhubani district is in North Bihar and borders Southeast Nepal. The village is approximately 10 miles away from the city of Madhubani, which has a population of over 65,000 inhabitants[4]. Saurath itself has a sizable population of about 6,000 people dispersed among 1,300 households[5].

Figure 1-2. Scenic View of Saurath from a Vista.[6]

The easiest way to get to Saurath from New Delhi is to take a flight to Patna and then drive. A more adventurous route involves taking the train directly to Madhubani as a train ride can provide insight into how an ordinary villager travels. The rural scenery viewed along the way is beautiful and idyllic. Notable sights include children playing in canals with their animals, fruit orchards as far as the eye can see, and a rural landscape that makes the imagination wander.

[4] http://www.census2011.co.in/census/district/59-madhubani.html

[5] These figures were obtained for talking to the villagers

[6] Source: Author

Economy

The economy of Saurath is centered on agriculture, as rice, mangoes, pulses, and litchi remain the main crops grown in the area. The cultivation of these crops provides livelihood opportunities for those in the agricultural sector. The methods used in cultivation are quite primitive and labor intensive, as much of the agricultural work like planting and harvesting is done by hand. The introduction of mechanization could improve productivity, but the cost of purchasing such technology is beyond the reach of most farmers, and the technology would end up displacing traditional agricultural workers, possibly resulting in out-migration. The village produces simple commodity goods and does not have any facilities for agricultural value-added production.

A vibrant service sector exists within the village. Some of the shops present in Saurath include bicycle repair, tool repair, and mobile phone repair. Highlighting the times, three mobile phone repair shops exist in the village. The other small shops in the village sell basic necessities, such as foodstuffs, household products, and consumer goods.

Saurath has only minimal industry. The main types of industry that exist include furniture making, handicrafts, and basket weaving. All three of these activities can be classified as artisanal, as various castes and sub-castes dominate these few professions. Though furniture making offers stable employment and the skill level required for such an activity is quite high, the job still only provides a subsistence level income, as most clients get furniture repaired rather than purchase new.

Saurath is tethered economically to Madhubani, so that farmers have a larger market in which to sell their goods. Some of Saurath's agricultural goods are purchased by middlemen based in Madhubani and are then resold to other markets such as Calcutta and Patna. The proximity to Madhubani also provides employment opportunities to many of the villagers.

People

The individuals that comprise the village are quite diverse. While the village is almost entirely Hindu, there are a number of castes and sub-castes that exist which contribute to the overall diversity and vibrancy of the village. Even though there is a built-in rigidity within the caste system, a great deal of social harmony and social capital still exist within the village.

What is quite striking is the level of generosity present in Saurath. Even though most villagers have limited resources, they still look after and provide for one another. This strong sense of community binds the villagers together, as they must rely on one another to overcome various hardships. The cooperation and sharing amongst various groups indicates a highly developed network of social capital that contributes to the resiliency of the village.

Physical Infrastructure

Walking through the village is an exciting experience because nothing is standardized and there is no set structure. The winding pathways in the village are made of both brick, mud, and in some places concrete. The physical widths of the pathways inside the village are quite impressive, as cars and tractors can easily make their way through the narrow passage-ways. The state seems to have made an effort to improve the physical infrastructure of Saurath, as walking through the village is relatively easy due to the surface of the pathway.

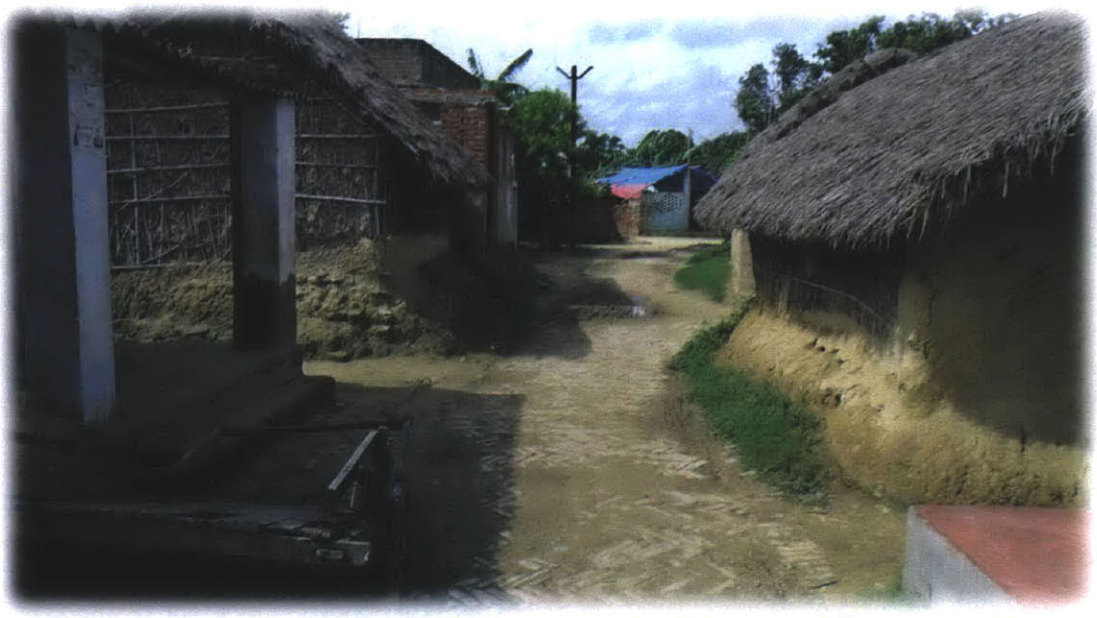

Figure 1-3. Depiction of the Physical Infrastructure in Saurath.[7]

In comparison to other villages distributed throughout the rural landscape of India, the physical infrastructure of Saurath is quite impressive. The availability of electrical power within the village to those able to afford the utility signifies a remarkable achievement in infrastructure. Despite the grid's capacity constraints and the resulting erratic power supply, the benefits of electricity access outweigh the complications, as it empowers the villagers. In addition, the state government has started to implement innovative projects such as solar panel based street lighting systems within Saurath. Of note, the installation of numerous government-provided water pumps throughout the village has created an environment in which the villagers can easily attain clean water. It seems that the local bureaucracy is quite responsive to the needs of the village, and that the Panchayat is quite proactive in pushing for changes within the village.

The village housing stock comes in two varieties in villages: (1) homes made from durable materials, and (2) homes constructed of informal materials. Homes constructed of durable materials have walls and roofs made of brick and concrete. These well-

[7] Source: Author

designed structures have doors and windows that allow for privacy and safety. Contrastingly, the informally built structures are made from a combination of bamboo, mud, and straw. Small in size with only one or two rooms, these informal homes do not have windows and doors as their low-income inhabitants often lack the resources necessary to fund such amenities.

Governance

The governance structure of India has been democratized to the local level. The administration of villages is accomplished through a governance structure known as the Panchayat Raj[8]. By area this structure is composed of three-tiers: district, block, and village level. At each of these levels, elected members help to develop and administer the rural areas. Saurath follows this democratic system and has an elected village Panchayat that takes care of village administration, including making collective decisions and solve disputes. The Panchayat is composed of a diverse group of individuals, including women.

[8] Information on the village structure was obtained from talking to members of the Panchayat.

Chapter 2 - Literature Review

Literature Review

The literature on internal rural-urban migration is quite extensive. Scholars have examined an array of topics from both quantitative and qualitative perspectives. While it would be informative to create a comprehensive literature review, this is not possible as the sheer number of articles prohibit such an undertaking. To weave the story of rural-urban migration in a succinct and coherent form pertinent to this thesis, the following review examines and collates select, seminal works within the body of literature on the topic.

Migration

An important intellectual contribution to the understanding of migration comes from Lewis (1954), in which he modeled a labor-surplus two sector economy, with the so-called "traditional" and "capitalist" sectors. His model attempted to understand economic development from the prospective of a labor surplus economy. The process of transformation involved the "traditional" sector shifting towards the "capitalist" sector. The result of this transition induced a rural to urban migration, whereby rural laborers begin to participate as wage labor in the capitalist sector. The main assumption of the model was that the "traditional" sectors wage was at the subsistence level, and that the capitalist sector wage was higher due to the increases in productivity; as the wage in the "capitalist" sector was determined by the marginal product of labor, as compared to the average product of labor in the "traditional" sector. The wage differential between "traditional" and "capitalist" sectors was a key driver of migration.

The idea of wage as a motivator for migration was further developed by Sjaastad (1962), as he postulated that migration is influenced by the wage rates. He further explained that various locations have differential wage rates, and that an individual makes a migration decision based on the present value of the income less the startup costs associated with migration. The relevance of startup costs foreshadowed the later idea that resource

constraints affect the ability to migrate. In addition to other resources, individual skill-sets were considered an important determinate in the migration decision, as workers with experience and skills tend to have higher wages.

The seminal work in the field of rural-urban migration was conducted by Todaro (1969) and Harris and Todaro (1970); this work was used to understand and model the behavior of internal migrants. The most salient concept from the model is that rural individuals base their migration decision on expected future incomes available in urban areas. This holds true even in the face of urban unemployment, as migrants are able to flow between informal and formal sectors, and thus fulfill their expectations of gainful employment. The defining assumption of the model is that migration ceases when wages become equalized between the rural and urban areas; this assumes that the wage is the only motivator for the migrant. The model forgoes investigating the effect of individual, social, and familial forces that draw migrants towards a city. In addition, this theory deals with issues at the macro-level, rather than looking at micro-level data.

The human capital model of migration fills the gaps that are left in the Harris and Todaro model as it focuses on micro-level data and analysis. The concept of earnings as a function of human capital came from Sjaastad (1962). This idea was further built upon by the likes of Lipton (1980), Jenkins (1977), Fields (1975), Hare (1999), and many others. What can be generalized from these ideas is that the determinants of rural-urban migration can be described as "push" and "pull" factors as they relate to human capital. These factors are based on micro-level observations that examine the traits and characteristics of migrants and their households.

Human capital can best be defined as the skills, knowledge, abilities in an individual. Investing in human capital is a way in which to bring knowledge and education to an individual as a way to empower them. By imparting these skills in an individual the chances that individual obtains higher level of earnings increases. As Becker and Tomes (1994) explain, investment in education is a method for creating intergenerational social mobility. The ability to progress economically between generations is a direct result of

investment in education as the skills and knowledge can be translated into the workplace. In addition, social capital influences the level of human capital within an individual; Coleman (1988) describes how familial composition, social networks, and social norms affect the overall level of human capital.

The "push" factors can best be described as negative circumstances which shape the migration decision; in general, these factors are based on the social and economic condition of the household. With regards to the economic motivations, the classic argument for migrating is that the household suffers from a high level deprivation; and because of this deprivation they are forced to look outside of their village for work. The scarcity of rural employment opportunities outside the agricultural sector is one of the contributing factors to this deprivation as agricultural work provides subsistence level wages which contributes to the economic stress of the household.

With regards to the "pull" factors, the theory proposes that individuals with a high level of human capital are naturally drawn to the urban areas because of the vast opportunities that are clustered in the geography. These individuals typically are between the ages of 18 – 30 and have the skills, ambition, social networks, and desire to move to an urban area. For these individuals there is no compulsion to migrate, rather they are more ambitious and desire to improve their economic standing. The human capital that these individuals possess enables them to find employment opportunities that boost their financial position. Within human capital theory, the migrants are looked upon as rational actors, having the ability to make decisions by themselves; however this is not always the case as larger familial considerations are included in the migration decision.

Building upon the human capital model, the New Economics of Labor Migration (NELM) theory as presented by Stark and Taylor (1991), and incorporates not just the rational individual but also the family that is affected by migration. It is posited that a joint-household is responsible for the decision to migrate. One of the main tenants of the theory is that the decision to migrate is part of an overall risk mitigation strategy on the part of the household, and not just a decision made by an isolated individual. Within the

household there is bargaining that takes place. The household places a strategic wager on the part of the migrating individual that they will be able to secure employment in an urban area that has a discounted wage that is greater than the rural wage. The role migration plays into the overall household strategy of livelihood diversification within the rural context, as Ellis (1998) elaborates on the fact that the pooling of risk is an important element in the decision making process of the household as there are exogenous factors such as floods and droughts that severely affect the economic positions of the household.

Remittances

Remittances are a means for an individual to support the family that is left behind after the migrant has left. The composition and size of the remittance depends on the migrant; and many times an implicit contract exists between members of the household and the migrant, whereby the household will receive remittances from the migrant in exchange for initially supporting the migrant. Stark and Lucas (1988), Lucas and Stark (1985), and Stark (1980), show that there are many motives for a migrant to remit aside from pure altruism; some examples include securing an inheritance stake, and investing for retirement. The unwritten contractual arrangement between family members ensures that the migrant will continue to send remittances back to the village, as secured bond is the inheritance. It is not always the case that the migrant will remit their income on a consistent basis, as the migrant may withhold remittances until it is in his favor to do so. There are strategies on the part of both the household and the migrant that are sometimes adversarial in nature and could be modeled using game theory.

Some remittances are made in direct cash transfers to family members as noted in Adams (1989). These cash transfers can occur in both the formal and informal markets. With regards to the formal means of transmitting funds, these methods include sending an electronic bank transfer, writing a check, mobile money, or in person. By engaging in formal activity, the remittances can easily be tracked and quantified.

One way of sending funds informally involves making arrangements with third-party individuals to distribute funds to the family; this method is called "Hawala" or "Hundi" depending on the country context. As Schaeffer (2008) notes, the validity of the transaction is based on a code of honor and integrity, as well as personal affiliation and relations. This informality allows quite a bit of flexibility with regards to sending remittances as it reduces dependence on official systems, as many times, the poorest individuals do not have access to bank accounts. Though the informal system is efficient, it becomes extremely difficult to quantify the amount of informal remittances that are flowing through the economy.

Aside from cash transfers, other methods of remittances come in the form of goods in-kind. These remittances can be consumer goods and/or capital goods. The returning migrant might make semi-annual trips back to their native village and deliver goods that the family needs. This is a hedging strategy on the part of the migrant because it will allow him/her to control the spending of the remittance.

Economic Effects

Monetary infusions into the local village economy are a form of external finance according to Ratha (2005). This cash infusion can be used for many different activities including household consumption and asset accumulation. One of the major questions within the migration literature relates to the use of these funds as different conclusions have been reached. Lipton (1980) came to understand that the majority of the remitted funds are used for household basics; and that migrants typically do not remit money for investments in capital goods such as agricultural equipment. As Banerjee (1984) concludes further, remittances are used for basic household consumption needs. The uses of these funds include traditional goods such as food and education. What is surprising is the lack of investment in agriculture on the part of the household. Further building upon the concept of remittances, Adams (1998) tries to understand the role of asset accumulation on the part of the household; concluding that domestic remittances are used

for consumption goods, while external remittances are used for asset accumulation, with a particular emphasis on land acquisition.

Social Effects

It is possible that the remittance receiving households become dependent on the cash transfers. The moral hazard theory is expanded upon by Chami et. al. (2005), as it is believed that the moral hazard manifests itself in the form behavioral changes on the part of the recipients of remittances. This change in behavior results in a decrease in expected economic output; examples of such behavior change include decreases in employment searches, lack of motivation, and reduced labor effort, just to name a few. This reduction in economic output has further consequences in the form of skill fermentation, and reduced capacity to learn.

Migration also produces additional social consequences within the migrant household. As Bruce and Waldman (1990) note, financial transfers to children change behavior and make them less efficient. In addition, it is generally understood that parental absenteeism tends to have a negative effect on the lives of children left behind. From Rossi (2008) it is shown that there are many effects with regards to children, some include school drop-out and behavioral problem, just to name a few.

Contribution to Literature

This thesis is to further explores the Harris Todaro and human capital models of migration. By investigating the micro-level realities that drive rural-urban migration in the present day, a better understanding as to what motivates migrants can be attained. In addition, examining the households left behind may provide some clues as to why a migrant ventured outside of their village. Given that much has changed in the world since these ideas were first introduced, a reexamination of the theories seems to be necessary because during the years in which the initial studies were conducted, the world was not as globalized and connected as it is today. This is especially true in the case of

India, as the recent economic transformation has brought broad based gains in the social and economic indicators of both rural and urban areas. A prime example is the Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA) which is a governmental public works programs that has increased real wages in the rural areas since its implementation three years ago (Berg et al. 2012). This change has shaken up local labor markets because the guaranteed employment has made rural labor scarce.

Given India's rapidly growing macro economy, understanding the factors that influence migration from the poorest regions of the country could provide answers to questions of how to develop rural areas, and make macroeconomic growth more equitable.

Chapter 3 – Methodology

Basic Methodology

The research framework incorporates both qualitative and quantitative study elements. In the qualitative analysis, survey data is collected to provide a better understanding of the socioeconomic conditions in which the respondents live. Complementing this information, the quantitative analysis functions to mathematically model the likelihood of migration based on a number variables and logistic regression.

Survey Design

The survey was designed to obtain a great deal of household data with minimal effort. The survey was constructed based upon (1) previous demographic surveys conducted by the Indian government, as well as (2) a World Bank survey executed in Africa to determine the socioeconomic status of households. The survey questionnaire asks only basic information about the households. Most of the questions relate to issues of landownership, employment, caste, income, occupation, and family. The survey was administered to appropriately 596 households in the village of Saurath, which is located in the Madhubani District of Bihar, India. Appendix 1 presents the complete survey utilized in this field study.

Survey Questions

Type of Home

The survey provides two choices, either brick or mud, for the type of home category. This basic information reveals quite a bit about the economic well-being of the household. Homes made of solid brick and concrete indicate that the family has had adequate resources at some point in time to finance the construction and land costs associated with building such a structure. Well-designed and solidly built, these homes typically have multiple rooms, windows, open spaces, and enclosed boundaries.

In contrast, individuals with homes made of fragile materials such as mud, straw, and bamboo normally have a relatively lower economic status. These structures appear as irregular edifices made haphazardly with local materials. Moreover, these shoddy structures lack many of the amenities found in brick homes. Most huts have only one or two rooms, no running water or electricity, and an inadequate ventilation systems or windows.

Basic Infrastructure

Questions relating to the basic infrastructure of the household were asked of all respondents. The presence or absence of electricity serves as an indicator of household economic well-being. Having electricity is associated with other luxuries such as televisions, mobile phones, and appliances. Given that having electricity implies the cost of an initial connection in addition to a monthly service charge, it is illuminating to see whether the households with electricity correspond to large landholders or other affluent members in Saurath.

Another survey question probing for the presence of an indoor bathroom reveals the economic and hygienic conditions faced by households. Due to the high cost of building separate toilet facilities, it is interesting to see which types of households have this amenity.

Hygiene

The survey screens for cohabitation between humans and animals since animals dwelling in the house can have adverse health effects on the humans residing there. Even if a household has the resources to own livestock, the inability to house the animal outside of the home would suggest a low economic status.

Economic Well-being

In order to understand the economic strength of the households, a series of questions about occupation, income, education, landholdings, and family size were asked. The answers to these questions are essential in obtaining insights into the lives of the households. The occupation and education variables are excellent indicators of economic well-being. Learning about each household's education level allows for a greater understanding of their employment prospects and associated income levels.

Landholdings

Land holding patterns are very important in understanding the distribution of wealth within the village. In India, land is a prized asset, having large amounts of land translates into an ability to generate income and obtain higher social status. Land is also a type of long-term investment. The distribution of land in India is skewed towards the wealthy even more so than in other countries. By observing the partitioning of land property in each household in Saurath, one can gain great insights regarding the disparities between different social groups.

Migration

The next section of the survey asks about migration. The motive of this question is to understand the rationale for the migration. The demographic information extracted from these questions is of the utmost importance. By learning about the age, sex, and education status of migrants, a profile can be developed of a typical migrant. Furthermore, demographic information on migrants can help analyze their probability of migrating to other locations. In addition to demographics, occupation, income, and remittance information can reveal how the migrant lives and in what capacity he/she

assists the family left behind in the village. This information is critical since migrants are often the only income source for the families left behind in the village.

Another interesting question concerns how the migrants actually send the money back to their villages. A whole body of literature has emerged as to how family members receive remittances. In this survey, an attempt is made to understand the methods in which money is transferred, both formally and informally.

Asset Inventory

Since the survey is focused on the households of the village, an inventory of major assets will be taken in order to verify their socioeconomic status. One can assume that many types of goods require significant resources to acquire. By understanding what assets each household has, it may be possible to determine the propensity for an individual to migrate to the city due to their lack of assets.

Finances

In addition to chronicling the household assets, understanding the breakdown of expenses will allow the researcher to identify and investigate household essentials and priorities. Previous studies state that rural households spend the majority of their incomes on food and other consumption goods. It would be interesting to see if any of the households have the desire to spend their money on capital goods, as a lack of capital goods is one of the reasons for unproductive agriculture.

The final part of the survey examines whether or not the households have taken any loans. This is an important question to ask because there may be a correlation between a loan and a migrant leaving the village. The pressure of repaying a loan may be a driving factor for migration.

Data Analysis

Wealth Index

A wealth index is created in order to better understand the overall socioeconomic position of the household. A data reduction and condensing technique known as principal component analysis (PCA) is used to generate this index. The methodology for PCA involves aggregating various household assets so that the socioeconomic position of the household can be determined.

In the PCA analysis, each household asset is assigned a relative weight in comparison to other household assets. This occurs since not all assets are valued equally. The rationale for assigning weights is that it is difficult to distinguish between assets among the various combination assets that the households in the survey possess. Using PCA is critical to understand the economic position of the household. In the survey there are approximately 23 variables that are used for calculating the economic position of the household. Given the vast number of asset combinations possible, PCA is the most appropriate technique for discerning the relative weights of the assets.

A simple example of the asset weights problem involves trying to differentiate the socio-economic position between two identical households that differ solely in phone usage: one household only uses a mobile phone and the other household only uses a land-line phone. It would be inappropriate to value both phone assets equally because obtaining a land line phone in a village is more costly and difficult than purchasing a mobile phone. In addition, since mobile phones have become ubiquitous, the weight of a mobile phone would be minimal due to the fact the every other household in the village would also possess the asset. The inherent scarcity of a land line phone would translate into a heavier assignment of weight.

The data generated from this analysis is then used to calculate an overall score for the household based on its possession of assets. The score reflects the cumulative amount of

assets present within the household. For data analysis purposes, this score is then transformed into an index.

Logistic Regression

The main analysis of the data comes from logistical regression. This method is best used when trying to predict the outcome of a binary dependent variable. In the present survey, the outcome is either "to migrate" or "not to migrate", as the study is looking for determinants to estimate the likelihood of an individual migrating from a household.

The variables tested during this analysis include caste, dominant occupation, wealth index, local income per capita, and landholdings. These variables are a mixture of both continuous and categorical. Continuous variables have the property of sequential ordering, as well as an infinite number of possibilities. Examples of continuous variables include income and family size. Categorical variables are similar to dummy variables in the sense that they predict different outcomes.

After running the logistic regression, the odds ratio is calculated for each variable. The odds ratio is a measure of the likelihood that an event will occur. Provided the odds ratio from the analysis, one can determine the likelihood of migration based on the variables in the model.

Survey Bias

As with any social science field survey, bias and oversights underlie the survey questions, methods, and assumptions. It is therefore important to adequately address all known biases that could be perceived as oversights.

Selection Bias

The households chosen for the survey were selected in a random manner. In this context, random implies going from door-to-door and asking if the subjects would participate in

the survey. If they agreed, they would be included in the survey results. If they did not agree, the household was skipped. This method is not truly random in a stringent statistical sense because there is some self-selection bias on the part of respondents.

Uniqueness of Saurath

It is possible that Saurath may not be a representative rural village of India. One reason is that while the village is remote, it is not isolated in the true sense of the word. The village is in close proximity to a national highway and a small city. This allows the villagers economic opportunities that other remote villagers would probably not have.

Proximity to Major Road

In terms of accessibility, Saurath is linked to the national highway system of India. National highway 104 crosses the road that leads to Saurath. This highway is approximately one mile from the village, deeming the village highly accessible. The road that runs adjacent to the village has an asphalt surface and is also well maintained. The high quality of the road permits easy travel between regional population centers.

A major benefit of having such a good road near the village is that it helps transport agricultural goods. Agricultural goods degrade many times in the developing world because of a lack of transportation and cold storage facilities. Through proximity to a transportation link, the villagers of Saurath have a better chance of getting their products to market and in turn increasing their incomes. In addition, the paved road gives the villagers of Saurath a competitive advantage over other villages.

Culture

Saurath is located within the regional area of Maithilanchal. This area encompasses parts of North Bihar, Jharkhand, West Bengal, and Southeast Nepal. This area has a distinct culture and language from the rest of India. The language spoken in this area is Maithili. The area is culturally diverse, as there are numerous social, ethnic, and religious groups in the area.

Nepal Border

One major difference between Saurath and other villages in India is its location15 miles from an international border crossing with Nepal. Due to the fact that India maintains an open border with Nepal and vice-versa, people and goods can freely move between both countries unobstructed. This free movement has the potential to improve the economic situation within the village; and thus this makes the village unique.

Access to rail transport

Saurath is serviced by a rail station in Madhubani. This rail link connects the village to the rest of India. From Madhubani it is quite cheap and easy to travel to the major cities of India. One major city that is physically and culturally close is Kolkata, and as such many people have been known to migrate there. Many villages in India are cut-off from such a vital source of transportation, the villagers that live in isolated settlements must endure arduous journeys in order to reach the mega-cities of India, while the villagers from Saurath can go with relative ease and comfort.

Rail transportation is also a way in which agricultural and industrial commodities are able to be transported to and from areas in the country. This transportation system provides a large economic advantage to the village of Saurath. They have easy access to raw materials and other goods; they can also distribute their agricultural products all across India.

Economic Advantages

One unique aspect of the village is its geographic proximity to the district headquarter city of Madhubani. With a population of about 60,000, the city is a source of economic opportunity for those in the surrounding areas. This city is approximately seven miles away from the village of Saurath, and is therefore quite accessible by various modes of transportation. Typical urban amenities such as governmental offices, industries, and small shops exist within Madhubani. Despite the convenience and economic support, the

close location of Saurath to a major city may skew the survey sample findings away from that which would surface in a typical, remote Indian village.

Another geographical advantage is the closeness of two smaller towns, Pakroni and Raika, to Saurath. These small population centers are also areas of employment for people living in Saurath. Small-scale industries such as furniture making and other handicraft manufacturing exist within these towns. Raika is also commonly known as trucking stop because of a national highway that passes through the town.

The naturally fertile land around Saurath represents an invaluable commodity, as it is conducive to a large variety of crops. The major crops grown in the area are rice, wheat, mangoes, litchi, and pulses.

A particularly unique aspect of Saurath is that it is home to the first rural business process outsourcing (BPO) center in India. The BPO employs a total of five individuals who work as customer service representatives. The BPO is a dual-purpose center that also functions as a computer training center to teach the villagers how to use computers. This is a great asset for the villagers because it allows them to learn new skills that they would normally be excluded from. The BPO was established by Drishtee Development, an organization that is dedicated to developing rural India by actively linking the rural supply chain.

Limitations of the Survey

One of the major oversights in the survey relates to seasonal migration. The survey focused on the present status of migrants that have departed from the village. However, the survey did not capture the historical rate of migration over time. Consequently, the study likely underreports the flux of migrants over time. During my time in the village, I anecdotally heard about many people leaving the village after planting their crops. These individuals would work in the cities for a short period of time, and then return to the village during harvest time. The survey did not address this phenomenon.

Another limitation of the study includes the limitation of the survey to households that have a member migrate. In some cases, entire families migrate to the city. Since I was unable to contact them, these households did not participate in the survey. As a qualitative indicator of this out-migration, I saw many abandoned homes during my time in Saurath and was told that the people who owned the homes lived outside the village; however, I did not calculate the number of structures in this condition.

The survey was also limited to individuals interested in cooperating. There are many reasons why an individual would like to share their information with a researcher. One reason could involve the personal pride that may come from conversing with a Westerner. A second reason could be that they do not have an outlet to tell the story of their personal hardships so they open up to an outsider because of the lack of social stigmas associated with the outsider.

Many of the oversights encountered resulted from constraints in time and funds. Increased time to conduct the survey would have allowed for a more comprehensive survey. Greater funding would in turn have permitted employment of more individuals to help collect the data required for such an undertaking.

Chapter 4 - Data Summary

Data Summary

The survey was designed to obtain census level data to document the social, economic, familial, and financial factors that play into the lives of individuals from Saurath. This chapter will identify, define, and analyze the data that was collected from the survey, with the intention of better understanding the socio-economic conditions that exist within the village. By looking at basic descriptive statistics in conjunction with more advanced analysis, one can obtain a clearer picture of the village beyond the anecdotal evidence observed during fieldwork.

Landholding Patterns

Land has historically been a measurement of one's wealth; this is particularly true in the case of India, where land is viewed as a precious asset. Prior to independence, large landholders known as "zamindars" controlled much of the land in rural India. Given their position of power, these landholders collected rent from the peasants that worked their land as sharecroppers. Within this feudal system, the landholding class exerted undue influence over the lives of peasants, both politically and economically. After independence the government of India instituted various reforms that were carried out by the individual state governments. The land reforms attempted to abolish intermediaries, increase land tenure, and establish land ceilings (Deininger, Jin, and Nagarajan 2007). The reforms purposed to the establish land ceilings in order to breakup large estates and effectively bar owners from acquiring large properties (Besley and Burgess 2000). The effectiveness of these reforms was unevenly felt. In many cases, the state failed to fully implement reforms. Individuals also managed to circumvent some of the laws related to land ceilings, thus reestablishing themselves as large landholders in rural areas.

In present day India, large landholders still wield significant economic and political influence, even after the imposition of land reforms. Inequity in land ownership remains

high. About 40% of households in rural India do not own any land, and as much as 15 million acres are in landholdings of 20 acres or above (Rawal 2008). The skewed nature of landholdings can be seen as a contributing factor to rural poverty, as many households still do not have access to income generating assets. While studies have shown that land reform efforts have had a positive impact on the overall Indian economy, the extent and effectiveness of the reforms have not been as comprehensive as those undertaken in East Asian countries (Deininger, Jin, and Nagarajan 2007). In countries that have carried out effective land reforms, rural poverty has declined significantly and economic growth has accelerated.

According to a survey conducted in Bihar by the World Bank, approximately 75% of the rural poor are "landless" or "near-landless due to stalled land reform attempts on the part of the state government (World Bank 2005). Land reforms in Bihar started in 1950 with the abolishment of "zamindars," and continued over the decades with the fist Land Ceiling Act passed in 1961. However, reform has been slow given that only 1.5% of cultivable land was redistributed by 1986 (Sharma 1995). This lack of marked reform has resulted in the persistence of tenancy arrangements that exploit landless farmers and perpetuate an unjust economic system that keeps many households in poverty. Inflated land rent whereby tenant farmers pay half their gross farm output as rent to their landlords represents an example of this unjust arrangement (World Bank 2005).

In comparison to agriculture in the Western world, the landholdings in India tend to be small. Table 4-1 presents the units of measure for land. Local nomenclature will be used when discussing measures of land for the remained of the paper.

Table 4-1. Local Units of Measure in India.

Quantity	Measurement*	Feet^2	Meters^2	Acres
1	Bigha	27,229.00	2,529.65	0.62
1	Kattha	1,361.00	126.44	0.03

* *Measurement Conversion Factor*: 1 Bigha = 20 Kattha

**Calculations based on the local measuring system[9]

Based on the survey data, landholdings in Saurath mimic those of rural Bihar. Table 4-2 shows that 58% of the survey sample are either landless or have marginal plot sizes (None or 0-2 Kattha land), and that 242 households are landless, accounting for 40% of the total survey household population. The pervasive lack of landownership within the village indicates that many households are trapped in a low economic position. Without land, households do not have a stable source of income, collateral, and real savings. Moreover, persons of landless households fall subject to subsistence employment as wage laborers.

Table 4-2. Landholdings in Saurath.

Land	Number of Households (%)
None	242 (40.60)
0-2 Kattha	106 (17.79)
3-5 Kattha	58 (9.73)
6-10 Kattha	60 (10.07)
11-15 Kattha	22 (3.69)
16-20 Kattha	23 (3.86)
1-2 Bigha	56 (9.40)
3-5 Bigha	22 (3.69)
6-10 Bigha	5 (0.84)
11-20 Bigha	2 (0.34)
Total	**596 (100.00)**

On the other end of the economic spectrum, large landholders (>1 Bigha land) compose 85 households, or only14% of the total sample. These landholders are few in number, but

[9] In many instances the actual measurements themselves fluctuate between locations regionally. For this study the measurements that will be used are based on the conversion factors used in Patna, the capital of Bihar. The reasoning for this decision is that the standardization of land measures does not exist in the village. Units of measure vary from region to region and have slightly different conversion factors.

control considerable amounts of land within the village, and can exert their economic strength by being gate keepers to agricultural jobs.

Between the landless and the landlord class, the middleclass tier of landholders can possess anywhere from three to twenty Kattha, which in the case of Saurath represents 27% of the total sample size. Typically, associated household members operate these medium size landholdings as the relatively small size of the plots deems it economically imprudent to employ wage laborers.

Proponents of land reform would argue that small farms tend to be more productive than larger feudal estates farms; and an inverse relationship exists between the size of the landholding and productivity (A. V. Banerjee 1999). While this may be true at the macro-level, many difficulties inhibit the productivity of the small farmer at the micro-level. As observed in Saurath, small plot sizes and lack of contiguity in plots preclude farmland efficiency.

Smallholder farmers are unable to diversify their crop offerings because their land resources are limited. In Saurath, valuable crops like mangoes require a great deal of space, and as such cannot grow on smallholder land. These farmers must resort to growing rice and pulses, commodities that have minimal economic value. The problem of land contiguity effects efficiency and productivity. Due to spatially separated plots, the farmer must work separate tracts of land of varying fertility and thus varying crop yield.

Caste

The Indian caste system is complex, with hundreds of castes and thousands of sub-castes existing across the various regions of India. In a rudimentary sense, the caste system is a social hierarchy and a form of identity that was established during ancient times and that has persisted into modern times. This hierarchical classification system discriminates social status and select employment opportunities to members simply based on birth (Gupta 2005). Certain castes are afforded more rights over others groups merely because

of their caste ranking. Within the caste system, social mobility is extremely limited, and individuals are essentially "locked" into their professions. The reality that marriages occur within castes/sub-castes compounds and perpetuates the lack of social mobility in India (Munshi and Rosenzweig 2009).

The main caste categories established by the Indian government are: General Caste (GC), Scheduled Caste (SC), Tribal Caste (TC), and Other Backwards Caste (OBC). These categories change over time based on the amount of social and economic marginalization felt by the castes. In the past, various commissions such as the Kalelkar and Mandal have investigated and recommended that certain castes be relegated "backwards"(Yadav 2002). The Indian constitution has incorporated the ancient notion of caste in an attempt to redress the historical oppression of the lower castes, through programs such as affirmative action (Yadav 2002).

The concept of caste may be declining in urban India due to rapid Westernization and modernization. However, this cannot be said of rural India. In rural India, caste plays an integral role in defining the lives of villagers. The power inherent in the caste system results in the systematic marginalization of those in the lower castes. This marginalization process results in confining the lower castes to the bottom of the economic pyramid, and also physically separated from others. As observed in Saurath, almost all of the households of lower caste lived in segregated clusters or familial compounds. The reasoning for this physical separation stems from the belief of the upper castes that the lower castes are ritually impure and polluting (Gupta 2005). The physical separation between castes exacerbates the problems of the lower castes because they are unable to develop social bonds and engage the networks of the upper caste individuals.

Demonstrating great social diversity, 16 different castes representing all three major caste classifications exist in Saurath according to the survey. Interestingly, Brahmin's constitute a sizable percentage among the total households surveyed. While official government data does not exist on the national level to support this claim, it is assumed that Brahmins represent a smaller proportion of the overall population of India than that

found through the survey of a rural subset of India. Table 4-3 shows that approximately 35% of all households surveyed were Brahmins, a group that has historically been ascribed significant influence in both the political and economic realms. A comparison between the survey findings and state level data would be appropriate, however caste affiliations of Bihar's population were last complied in the 1931 census, and would no longer be applicable (Mathew and Moore 2011).

The next largest caste documented in the survey is that of Mandal. The Mandal's of Saurath are a sub-caste of the Yadav caste of Bihar. The Yadav's are traditionally a pastoral community. As exemplified by the previous Chief Minister of Bihar who comes from the this caste, Yadav's also engage in business and politics (Gupta 2005). Even though social and political awareness is increasing within this caste, many remain subject to discrimination at the margins of society. Due to their low economic status, the Bihar government has listed Yadav's as an OBC in order to improve their economic conditions through affirmative action. The present study verified that the Mandal's of Saurath live under poor economic conditions, as indicated by their mud hut dwellings and other survey responses.

The third largest caste group is that of the Paswan. The Paswan are a sub-caste of the Dusadh caste of Bihar, which is categorized as a Dalit. The Dasadh caste is classified as a Scheduled Caste by the central government of India (S. Banerjee 2009). The Dalits are the most marginalized of all of the castes in India, as tradition dictates that they are ritually impure and inferior relative to the other castes. While the Dalits have made progress over the years, especially through political mobilization in Uttar Pradesh and elsewhere, great disparities remain between the caste and mainstream society (Gupta 2005). In rural India, the traditional caste-based power structure has remained intact for the most part. As a result, societal forces relegate Dalits to oppressive and degrading lives of political and social servitude. Some of the professional occupations held by this group include cleaning toilets, handling dead animals, and trash disposal.

Table 4-3. Caste Breakdown in Saurath

Caste	Category	Total Number (%)
Brahmin	GC	211 (35.40)
Chodhaury	GC	22 (3.69)
Dhanuk	GC	1 (0.17)
Kamat	SC	29 (4.87)
Kumhar	OBC	1 (0.17)
Kyot	SC	4 (0.67)
Mandal	OBC	87 (14.60)
Mukhiya	GC	38 (6.38)
Paswan	SC	54 (9.06)
Rai	OBC	25 (4.19)
Ram	OBC	35 (5.87)
Ray	SC	31 (5.20)
Sahu	OBC	21 (3.52)
Sharma	GC	2 (0.34)
Tahkur	GC	24 (4.03)
Taile	OBC	11 (1.85)
Total		**596 (100.00)**

From the data, an explicit economic disparity can be viewed between the castes with regard to land ownership. The total distribution of land is heavily skewed towards the GC category, in particular towards the Brahmin caste. Strikingly, Brahmins constitute more than 75% of all holdings for landholdings greater than 16 Kattha. This predominance in Brahmin landholdings may stem from historical economic imbalances that have persisted over time. The opposite pattern emerged for lower castes, as the data reflects that the OBC's tend to low landownership rates that mirror the economic marginalization they face. Almost all castes aside from the Brahmin are limited in land ownership to about 10 Kattha per household; this inability to accumulate more than 10 Kattha, could be explained by the lack of financial resources on the part of the household in the village.

Income and Employment

A steady income is essential for household stability and economic mobility as the purchase of goods and services improves the overall standard of living of a household. One way to avoid economic instability is to diversify the income stream. 120 households in Saurath were of dual or secondary income (Table 4-4). Rather than indicate that both husband and wife are working, dual income in most cases reflects a combination of male relatives that collectively support to the household. While the study cannot claim that the village experienced full employment, the study did evidence that every household in the survey has at least one dedicated income stream sustaining them.

Table 4-4. Income Source by Occupation.

Occupations	Total Number (%) by Income Source		
	Primary	Secondary	Tertiary
Farming	43 (7.21)	4 (3.33)	---
Agri Labor	24 (4.03)	2 (1.67)	---
Petty trader	---	1 (0.83)	---
Shop owner	26 (4.36)	1 (0.83)	---
Business	6 (1.01)	---	---
Private Job	223 (37.42)	34 (28.33)	3 (42.86)
Government Job	47 (7.89)	5 (4.17)	---
Domestic help	20 (3.36)	4 (3.33)	---
Retired/Pensioner	11 (1.85)	---	1 (14.29)
Unskilled Labor	72 (12.08)	9 (7.50)	1 (14.29)
Artisan	1 (0.17)	---	---
Student working	---	1 (0.83)	---
Others specify	49 (8.22)	6 (5.00)	1 (14.29)
Migrant Remittance	74 (12.42)	53 (44.17)	1 (14.29)
Total	**596 (100.00)**	**120 (100.00)**	**7 (100.00)**

The majority of survey respondents identified themselves as working a job in the private sector[10]. The classification of private sector signifies three things: that the worker has continuous employment, is at least semi-skilled, and is paid wages above the agricultural wage. By entering the private job market, these individuals show that they have a skill-set that makes them valuable to employers. Further stratification of income levels by occupation reveals that those employed in private jobs, have substantially higher incomes than all sectors outside of government and business (Table 4-5)[11].

The second largest income source in Saurath comes from remittances sent by migrant workers from outside of the village. Approximately 18% of all income is derived from this source. This statistic shows the village is heavily dependent on remittances in order to sustain their local economy. Even if a remittance is not the primary source of income for the household, the supplemental nature of the cash infusion empowers the household economically given that most jobs outside of the government, business, and private job sectors offer relatively low levels of income.

[10] Private sector can be broadly defined as any occupation that is in the service sector or a skilled trade, in which the worker is not self-employed and is dependent on wages.
[11] This table was constructed using total local income from primary income sources, and is broken down by deciles.

Table 4-5. Distribution of Income based on Occupation.

Local Income Deciles	Income Source (%)											
	Farming	Agri Labor	Shop owner	Business	Private Job	Government Job	Domestic	Pension	Unskilled Labor	Artisan	Other	Remittance
1	4.65	4.17	3.85	0.00	3.14	8.51	15.00	27.27	0.00	0.00	4.08	97.30
2	16.28	29.17	7.69	0.00	3.14	2.13	40.00	0.00	27.78	0.00	4.08	1.35
3	23.26	8.33	7.69	16.67	8.07	0.00	20.00	0.00	34.72	0.00	38.78	0.00
4	0.00	4.17	0.00	16.67	0.90	0.00	5.00	0.00	4.17	0.00	2.04	0.00
5	30.23	29.17	26.92	16.67	16.59	6.38	10.00	0.00	26.39	0.00	22.45	0.00
6	2.33	4.17	15.38	0.00	11.21	0.00	0.00	9.09	1.39	100.00	10.20	0.00
7	4.65	8.33	7.69	0.00	15.70	4.26	0.00	0.00	2.78	0.00	6.12	0.00
8	4.65	0.00	11.54	16.67	16.59	8.51	10.00	9.09	2.78	0.00	4.08	0.00
9	13.95	8.33	19.23	0.00	14.35	21.28	0.00	36.36	0.00	0.00	6.12	1.35
10	0.00	4.17	0.00	33.33	10.31	48.94	0.00	18.18	0.00	0.00	2.04	0.00
Total	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**

An important consideration to taken into account is that some individuals may have mis-categorized themselves because of the limited number of occupation survey choices. The selection of employment opportunities for this survey was restricted given that there are an infinite number of occupations an individual can pursue. While it is not ideal to reduce the number of job categories, this limitation was necessary from a practical point of view due to the overwhelming number of occupations that exist.

Household Composition

Depending upon the vantage point of the household, family size within a household can serve as an opportunity for economic advancement or as a detriment to economic well-being. Those households composed of many working age individuals have an opportunity to improve economically by employing their labor. By utilizing the larger number of workers in the household, various income streams can be generated and savings can be collectively pooled for the overall benefit of the household.

From the vantage point of a household with a large number of small children, the economic burden is quite apparent, as the children need to be fed, clothed, and educated. The economic stress placed on the household becomes tremendous when the proportion of household members in the labor force is limited. In extreme cases, the financial burden is placed on a solitary person and/or the detrimental nature of large families manifests itself in the form of child labor. This coping mechanism for economic stress has long-term consequences for the children involved. These children miss the opportunity to receive an education that could provide them with the skills needed to improve their economic well-being.

According to the survey, households in Saurath have a sample mean household size of 4.69 members. The sample household mean is well below the average household mean for Bihar of 5.4 members per household[12]. This finding reflects a higher level of

[12] Figure obtained from the Bihar National Family Health Survey: http://www.nfhsindia.org/NFHS-3%20Data/Bihar_report.pdf

economic and social well-being that pervades in Saurath village in comparison to the rest of Bihar state, as the survey sample reflects a higher level of economic well-being when compared to state level data.

One measure of a household's structure is that of the sex ratio, or the number of females compared to males in a particular geographic area. In Saurath, the observed sex ratio was 880 per 1,000 males, which indicates an extreme gender imbalance, as there were approximately 14% more males than females in the village[13]. This statistic is quite concerning given the 925 per 1,000 males sex ratio reported for the Madhubani district[14]. Relative to the Madhubani district, the Saurath village appears to have a definite preference for males. This preference may represent an extension of the cultural values that exist in India, where female children are perceived as a burden to the family. The notion that females are a burden to the household originates from the practice of dowry. When a woman gets married in India, her family assumes the responsibility of paying the groom a set amount of money and goods in order to establish their household. As the amount of money exchanged in a dowry can be quite substantial it is not uncommon for families to start saving for a dowry from the time of birth. As a result of this expensive cultural practice, female children are discouraged (Srinivasan and Lee 2004).

Below Poverty Line

The poverty line is a threshold established by the government that defines the minimum level of income necessary to obtain the basic necessities of life. This estimate is derived by taking into consideration the various costs associated with living, including those of housing, food, and health. Often, the poverty line value is arbitrarily derived so far removed from the people actually living in poverty that it does not accurately represent the reality of poverty. The arbitrary nature of this statistic is due to the subjectivity of

[13] This figure took into consideration all members of the household, including individuals that have migrated out of the village.
[14] Figure obtained from 2011 Indian National Census: http://censusindia.gov.in/2011-prov-results/data_files/bihar/Provisional%20Population%20Totals%202011-Bihar.pdf

what "subsistence" actually means given that there is no uniform cost of living across a country or region.

The poverty line in India is set by the national government in coordination with the planning commission. Using data from 2009-2010, the Planning Commission calculated the rural poverty line as Rs. 673 per person per month for India as a whole, and Rs. 656 per person per month for the Bihar region[15]. Applying the latter official statistic, a family of five in rural Bihar would be considered below the poverty line if their cumulative income were less than 3,280 per month. Given the inflation rate of consumer goods coupled with commodity price spikes, it appears that the poverty line as defined by the government is quite low and unrealistic. Applying the strictly income based poverty line metric for Bihar to the survey sample, approximately 23% of the population falls below the poverty line.

The poverty line is an important metric because access to social programs is based on this figure. One of the most important government programs in recent times is the Below Poverty Line (BPL) card. This card entitles the holder to subsidized rations, food, and healthcare (Ram, Mohanty, and Ram 2009). The issuance of the card depends on an arbitrary mix of income and assets. Households receive the BPL card only if they meet strict requirements. Critics of the BPL issuing process have emphasized the lack of complexity of the evaluation system and the high prevalence of poverty that remains due to systemic denial of BPL benefits to much-deserving households (Ram, Mohanty, and Ram 2009). The persistent lowering of poverty line values serves (1) to systemically exclude individuals from benefits, and (2) to boost artificially the overall economic picture by showing an increase in households that have "graduated" from poverty.

Alarmingly, the Saurath survey highlighted that many subsistence-level households with incomes only slightly higher than the poverty line value were denied BPL cards. 70 households or 32% of those without BPL cards actually have an income of less than Rs.

[15] Indian Planning Commission press release, March 2012: http://planningcommission.nic.in/news/press_pov1903.pdf

4,000 per month (Table 4-6). This anecdotal evidence exposes a limitation of the current BLP card program framework. While 146, or 68% of households were rightfully excluded from the BPL program, the 70 aforementioned households should have qualified for the program based on their low economic status. Apart from government-defined income and asset thresholds, lack of knowledge and/or bureaucratic hurdles may also contribute to the wide-spread lack of BPL card detected in Saurath.

Table 4-6. Below Poverty Line.

Total Income	Total Number (%) by BPL Card Status	
	No	Yes
<2000	25 (11.57)	60 (15.79)
2000 – 4000	45 (20.83)	121 (31.84)
4000 – 6000	27 (12.50)	79 (20.79)
6000 – 8000	41 (18.98)	71 (18.68)
8000 – 10000	26 (12.04)	24 (6.32)
10000 – 12000	7 (3.24)	13 (3.42)
12000 – 14000	2 (0.93)	3 (0.79)
14000 – 16000	14 (6.48)	4 (1.05)
16000 – 18000	4 (1.85)	1 (0.26)
18000 – 20000	9 (4.17)	1 (0.26)
>20000	16 (7.41)	3 (0.79)
Total	**216 (100.00)**	**380 (100.00)**

Further indicating poor BPL card programming, 25 or 6.58% of survey respondents possessing a BPL card also reported monthly incomes exceeding Rs. 10,000. Though speculative, it appears that certain high-income factions of the village are freely manipulating and abusing the BPL system. By obtaining subsidized services and diverting resources away from those in most need of aide, these high-income households are putting unnecessary stress on the social welfare system. Strikingly, Kumar (2012) reports that as many as 10% of the BPL cards issued in Gurgaon, India are illegitimate. Unfortunately, some BPL-unqualified individuals have obtained these cards through fraudulent underreporting of assets and incomes, or through direct purchase from those who possess BPL cards.

Migration

India has a long history of both internal and international migration. During internal migration, persons leave their native countryside for urban centers in search of amenities and economic opportunities that do not exist in the rural areas. Historically, a major reason for migration involved transition of individuals from the agrarian to the industrial sector. By abandoning a livelihood of subsistence farming, these workers managed to secure wage employment that provided higher earning potentials.

The portion of a migrant's income sent back to their families is called a remittance. By providing continued financial support to their families in the form of remittances, migrants rescue them from approximating a poverty line status, and in turn help households meet their basic needs. In order for the migrant to send money back to the village, he/she must save a considerable percentage of his/her income over a prolonged time period. To accomplish this, migrants live a thrifty existence in labor camps or slums without access to basic facilities and dedicate their time to urban work for which they earn only meager wages (Deshingkar and Akter 2009).

Various forms of migration can take place: temporary, permanent, seasonal, and circular migration. Temporary migrants perform short-term migration with the intention of moving back to their native villages. Many migrants accomplish temporary migration as they make trips to urban areas for work, but return to their native villages frequently to raise their families and to improve their living conditions. The permanent migrant abandons their village for good and physically relocates their entire household/family from the village setting to an urban setting. Seasonal migrants periodically return to their native villages throughout the year in order to help with planting and harvesting. Three growing seasons typically exist in many parts of North India. Migration usually occurs during the intervals between these growing seasons since labor is made idle. Intermediate between permanent and temporary migrants, circular migrants refer to those

that left their native villages at a young age only to return for retirement due to a cost differential between urban and rural areas.

The present thesis aims to evaluate migration and the factors that catalyze such human activity by interrogating the situation in the village of Saurath. Survey questionnaire of villagers revealed that 122 households, or approximately 21% of all those surveyed; include one or more migrants, resulting in a total migrant population of 134 individuals (Table 4-7). These migrants come from various socio-economic backgrounds and are dispersed throughout India. Though widespread in location, the majority of migrants appear clustered within Indian mega-cities, particularly New Delhi and Mumbai. This observation makes sense considering these cities serve as major economic hubs of the country and have a high level of activity. As job opportunities abound in these large metropolises, both skilled and unskilled workers alike can achieve gainful employment. Interestingly, migrants do not flock to Calcutta. Given the city's proximity and size, one would anticipate the influx of many migrants. However, present reporting methods localized only 3% of migrants to Calcutta, as compared to 51% to New Delhi and 16% to Mumbai (Table 4-7). This inexplicable bias in urban migration may have resulted from greater economic growth in New Delhi and Mumbai relative to Calcutta. Additionally, the language barrier faced in Calcutta is much more difficult to overcome than in the other major cities.

Table 4-7. Geographical Dispersion of Migrants.

Location	Total Number (%)
Ahmedabad	3 (2.24)
Calcutta	4 (2.99)
Delhi	68 (50.75)
Dhanbad	1 (0.75)
Faridabad	1 (0.75)
Gujrat	3 (2.24)
Haryana	2 (1.49)
Himachal Pradeshl	1 (0.75)
Hyderabad	1 (0.75)
Madhubani	3 (2.24)
Mumbai	21 (15.67)
Patna	5 (3.73)
Punjab	5 (3.73)
Raika	1 (0.75)
Sonepat	1 (0.75)
Unknown	14 (10.45)
Total	**134 (100.00)**

Migrants that leave the village of Saurath have various levels of education (Table 4-8), which in turn proportionately influence the incomes that these migrants are able to generate (Table 4-9). The Brahmin caste emerged as the most educated caste of migrants, and almost all Brahmin migrants attained an educational level of 9/10th grade or higher (Table 4-8). In India, finishing the 10th grade is the equivalent to completing high school in the United States. Remarkably, 50% of Brahmin migrants received advanced education (college or post-graduate) even though many likely came from households approximating poverty level status that could ill-afford basic necessities, let alone schooling. Relative to the Brahman caste, migrants from other castes had on average less than a 10th grade education. Based on the survey education and income results (Table 4-8; Table 4-9), one can infer the uneven distribution of opportunities within the village due to variable educational attainment.

Table 4-8. Educational Attainment of Migrants.

Caste	Level of Education by Grade (%)												Total
	Illiterate	4th	5th	6th	7th	8th	9th	10th	11th	12th	College	Post-Grad.	
Brahmin	3.33	---	---	---	---	---	10.00	16.67	---	20.00	36.67	13.33	100.00
Chodhaury	75.00	---	---	---	---	---	---	25.00	---	---	---	---	100.00
Kamat	12.50	---	12.50	---	---	12.50	25.00	25.00	---	12.50	---	---	100.00
Kyot	50.00	---	---	---	---	---	---	50.00	---	---	---	---	100.00
Mandal	14.81	---	3.70	3.70	14.81	18.52	22.22	11.11	---	3.70	7.41	---	100.00
Mukhiya	42.86	---	---	---	---	---	28.57	14.29	---	14.29	---	---	100.00
Paswan	27.27	3.03	12.12	9.09	6.06	---	---	33.33	---	6.06	3.03	---	100.00
Rai	75.00	---	---	---	---	---	25.00	---	---	---	---	---	100.00
Ram	80.00	---	---	---	---	---	---	20.00	---	---	---	---	100.00
Ray	50.00	---	16.67	16.67	---	---	---	16.67	---	---	---	---	100.00
Sahu	---	---	---	---	---	---	---	100.00	---	---	---	---	100.00

Table 4-9. Total Migrant Remittances.

Caste	Migrant Remittances (%)														Total
	Rs. 0	Rs. 500	Rs. 1,000	Rs. 1,500	Rs. 2,000	Rs. 2,500	Rs. 3,000	Rs. 3,500	Rs. 4,000	Rs. 5,000	Rs. 6,000	Rs. 8,000	Rs. 10,000	Rs. 20,000	
Brahmin	3.23	3.23	6.45	3.23	12.90	---	12.90	---	12.90	25.81	6.45	3.23	9.68	---	100.00
Chodhaury	---	---	---	25.00	50.00	---	25.00	---	---	---	---	---	---	---	100.00
Kamat	---	---	---	---	25.00	---	50.00	---	25.00	---	---	---	---	---	100.00
Kyot	---	---	---	100.00	---	---	---	---	---	---	---	---	---	---	100.00
Mandal	3.57	---	17.86	7.14	17.86	---	28.57	---	21.43	3.57	---	---	---	---	100.00
Mukhiya	---	---	---	---	---	---	57.14	---	14.29	28.57	---	---	---	---	100.00
Paswan	---	6.06	12.12	9.09	27.27	3.03	24.24	6.06	9.09	---	---	---	---	3.03	100.00
Rai	---	---	20.00	---	20.00	---	---	---	---	40.00	---	20.00	---	---	100.00
Ram	---	---	---	20.00	20.00	10.00	30.00	---	---	20.00	---	---	---	---	100.00
Ray	---	---	16.67	---	16.67	---	33.33	---	---	16.67	16.67	---	---	---	100.00
Sahu	---	---	---	---	---	---	---	---	---	100.00	---	---	---	---	100.00

Various studies have shown that education and income are positively correlated. This general observation applies to migrants in the present field study. The variation in educational attainment between castes plays a major role in the disparity in wealth (incomes and remittances) amongst the various castes. Table 4-9 shows that the majority of Brahmins remit more than Rs. 4,000 per month to their households; while the other castes on average tend to remit less than Rs. 3,000 per month. Given that Brahmans can remit such large amounts back to their villages indicates that they must make substantially more than the amount they remit or disclose to their families. The field survey queried household members about the migrant's income (data not reported here). However, the author determined that the amounts disclosed by households understated the actual incomes of the migrants. This understatement of income is probably due to the migrant purposely misleading the household in order to maintain a perception of impoverishment.

Remittances are used for various purposes including the purchase of food, clothing, and education. Many of the households with a migrant are one-income households, meaning that they survive based solely on the remittances provided by the migrant. Since 65% of migrant households are dependent on a single migrant, it appears that migrants provide an economic lifeline to families in need. Moreover, almost all of the migrants are men, and the relationship is either that of a father, son, or a combination of both. In the conservative society of the village, females are highly discouraged from migrating in search of employment.

The largest numbers of migrants come from the Paswan, Mandal, and Brahmin castes, as they make up approximately 27%, 20%, and 19% of the total, respectively. Almost all of the migrants come from households with local incomes of less than Rs. 4,000 per month, a threshold that corresponds to the lower-middle class. Many households that send a migrant possess a BPL card and have a relatively low rating on the wealth index, thus indicating their relatively lower socio-economic status.

The large number of migrant Brahmins came as a surprise since it was assumed prior to the study that the Brahmin population would be the least inclined caste to migrate. However, this assumption does not hold given that 25% of the total Brahmin population sampled lived on less than Rs. 4,000 per month (data not shown), and within this income bracket almost 50% are migrant households. This observation suggests that economic deprivation plays a role in the migrant decision making process. Even though Brahmin households have significant social standing due to their caste, social standing alone does not overcome poverty. Traditionally, Brahmins have excluded themselves from certain parts of the labor force as participation in manual farm labor or other such base work would tarnish their social standing. As seen in the survey data, no Brahmin migrant admitted to working as a laborer. Still, it would be intriguing to learn the exact occupations of Brahmin migrants in the context of their historically elite, yet circumstantially low socioeconomic status.

Not all castes in the village have migrants. Even though many households have low local incomes and are considered to exist at the subsistence level, they did not choose to send a migrant (Table 4-10). There are two possible explanations for this phenomenon as both related to socio-economic position of the household. The first reason could be that the many households are content with their living conditions. Even though they live in poverty and could desperately use migrant remittances, these households may have a greater sense of community, security, and stability that keeps them from migrating outside of the village. These household families have lived in the village for generations, own property, and have some social standing; it is therefore unlikely for these households to send migrants. Another possibility could be that these households do not have the means to send a migrant. These households exist on the margins of society and barely have enough to survive, let alone invest the resources to support a migrant.

Table 4-10. Migrant Status by Caste.

Caste	Total Number (%) by Migrant Status	
	No	Yes
Brahmin	186 (39.24)	25 (20.49)
Chodhaury	18 (3.80)	4 (3.28)
Dhanuk	1 (0.21)	---
Kamat	21 (4.43)	8 (6.56)
Kumhar	1 (0.21)	---
Kyot	2 (0.42)	2 (1.64)
Mandal	64 (13.50)	23 (18.85)
Mukhiya	32 (6.75)	6 (4.92)
Paswan	21 (4.43)	33 (27.05)
Rai	21 (4.43)	4 (3.28)
Ram	25 (5.27)	10 (8.20)
Ray	25 (5.27)	6 (4.92)
Sahu	20 (4.22)	1 (0.82)
Sharma	2 (0.42)	---
Tahkur	24 (5.06)	---
Taile	11 (2.32)	---
Total	**474 (100.00)**	**122 (100.00)**

Sending a migrant to the city is an involved process, as it requires both fiscal and social capital. In terms of fiscal capital, money enables the migrant to easily travel to their destination, and also covers the high "start-up" costs that exist when establishing oneself in a new city. Social capital and networks are essential for migrants to smoothly transition into the urban economy. In many cases, extended families or friends come to the aid of new migrants to provide assistance with housing and employment. Without such networks, migrants would have difficulty adjusting to life in the city, as many have low levels of education and the foreign environment would overwhelm them. The social networks that support new migrants in the city are especially important for those that are destitute, given that employment is quite difficult to find in a new location.

Wealth Index

Wealth is a complex function of aggregated assets, and understanding how to estimate such a value is a difficult task. The foremost reason for this difficulty is that each asset has its own relative value in comparison to other assets. For instance, it would be impractical to assign equal value between a brick house and a mud house. Even though the home serves the same purpose, the composition of the structure inherently indicates the economic situation of the households that live in the home. It would therefore be prudent to discriminate between the assets and assign meaningful weights so that a deeper understanding of the household's socioeconomic status (SES) could be realized.

The SES is an overall metric that can be used to determine how a household unit compares to other households in a survey sample; the metric is composed by aggregating various physical, economic, and social resources (Vyas and Kumaranayake 2006). One such method of aggregating multiple assets is to use Principal Component Analysis (PCA). This method is a mathematical process that allows for the aggregation of multiple variables, and assigns relative weights for each variable (McKenzie 2005). These relative weights can then be used to construct an index based on all of the inputs. This is a process of data reduction, as the matrix transforms and condenses a large variety of data into a meaningful set of weights that can be assigned to each variable (Vyas and Kumaranayake 2006).

The formula for a constructing a PCA matrix for a set of variables X_1 through X_n is the following:

$$PC_1 = a_{11}X_1 + a_{12}X_2 + \ldots + a_{1n}X_n$$
$$\vdots$$
$$\vdots$$
$$PC_m = a_{m1}X_1 + a_{m2}X_2 + \ldots + a_{mn}X_n$$

Where a_{mn} represents the weight of the m^{th} principle component and the n^{th} variable (Vyas and Kumaranayake 2006).

For the present study, a total 23 variables were used in the PCA calculation of the wealth index. The specific variables and results are displayed in Table 4-11. The reliability of the wealth index can be tested by comparing the Gini coefficients of the wealth index and income per capita variables, which are 0.42 and 0.44, respectively. Given that the variation between the two variables is relatively small, one can conclude that the PCA calculation accurately transformed the data in order to assess wealth at the household level.

Table 4-11. Principal Component Analysis Output

Variable	Weights	
Type of home	-0.2467	
Electricity	0.2742	*Eigenvalue*
Indoor Toilet	0.3169	6.16
Water pump	0.2735	
Animals	-0.0889	*Difference*
BPL card	-0.2469	4.30
BPL	-0.2524	
Rooms	0.195	*Proportion*
Land-line phone	0.1907	0.27
Mobile phone	0.1684	
Radio	0.1788	*Cumulative*
TV with cable	0.2783	0.27
TV without cable	0.0752	
Motorcycle	0.2417	
Bicycle	0.2027	
Tractor	0.0574	
Car	0.0688	
Kitchen appliance	0.1106	
Cooking gas	0.2981	
CD/DVD player	0.2735	
Generator	0.078	
Inverter	0.2041	
Other	0.0842	

The most influential factor in SES is that of owning an indoor toilet. This makes a tremendous amount of sense from a practical point of view. The ability to have a functioning toilet system is nested in a larger set of socio-economic factors. The primary reason to have an indoor toilet is to avoid having to defecate openly. The cost of owning a toilet is relatively high and space is a major consideration. Many households in the village live in mud huts, which are quite limited in terms of space. From previous observation, most of the huts have two rooms on average. This space limitation makes it difficult to have an indoor toilet. An additional consideration related to space is cost. The price of constructing an indoor toilet is prohibitive to many because of the cost of materials and physical space, where physical space is a driver of the cost.

Two other important factors are cooking gas and electricity. Cooking gas in the form of a propane tank indicates that a household has the means necessary to have such an expensive good. This asset requires weekly refilling of the tank since the minimum usage would likely be twice daily. A complementary product to the gas cylinder is a stove. In rural India, stoves are quite small, and typically have just one burner, but they are still relatively expensive. The fact that a household has the ability to purchase this good shows their relative affluence as compared to those who do not have this product. The individuals that lack cooking gas must resort to using dung, coal, wood, leaves, and other flammables.

Electricity is similar to cooking gas, as it requires a monthly payment to the utility provider in exchange for service. The main distinction for individuals that have electricity is that they typically have the associated goods that use electricity; such as televisions, radios, and other types of electronics in their homes. For electricity, the start-up costs associated with connecting to the grid can become quite expensive because of the distance between the home and the overheard lines or subunit. The affluence of those that have an electrical connection is in direct contrast to those unable to afford electricity. Households that do not have electricity must resort to use of kerosene lamps as a source of lighting—if they have the funds—or nothing at all.

Interestingly, ownership of capital goods such as generators, cars, or tractors has almost no weight and effect on the calculation. The reason for this is that the matrix calculation considers all the assets individually, and then calculates metrics based on a comparison to other variables. If there were instances in which all households surveyed had a particular asset, then the weight calculated would be quite small. The same can be said for asset groupings that few people possess. In terms of capital goods, since few households own them, they do not have much relevance to the wealth index. Very few households actually own the capital goods listed in the survey as the total quantity of generators, cars, and tractors noted were one, three, and one, respectively.

Educational levels

Understanding the educational level of a particular household is important when assessing the SEP of the household. Education is universally understood to improve the chances of an individual moving from unskilled labor to skilled labor. Incomes and education are positively correlated because an education can increase the cumulative lifetime earnings of an individual. Hence, those with less education are trapped in a position in which they are unable to generate a higher wage income.

The survey revealed that the Brahmins are the highest-educated group within the village. This statistic was anticipated given that the Brahmin's have a history of education and scholarly activities. The surprising finding was the quantity of education attained by Brahmins in comparison to households from other castes. Approximately 70% of the Brahman households surveyed had at least a $9^{th}/10^{th}$ grade education. This difference partially explains the disparity between incomes of the Brahmins and other castes, as having a higher level of education enables an individual to avail better employment opportunities.

What is also interesting to see is that that castes considered SC or OBC trend far behind the castes that are deemed forward. The Paswan's for instance have education rates that show that more than 50% of the households do not have an education past the 9^{th} grade. The lack of education coupled with the social bias against OBC's results in less economic opportunities.

The attempt to understand the education of an entire household does not come without limitations. The primary limitation in data comes from a calculation determining the associated household level of education by taking the average of each household member's level of education. The calculation did not discriminate between young and old, or give weight to the various levels of education, as all the values were aggregated. The data obtained in the survey only obtained basic information, and did not delve deeper

into the details of every family member. It was therefore impossible to obtain distinguishing data for both the young and old.

Chapter Summary

As shown in the chapter, the descriptive data obtained from the village survey was extremely comprehensive. The survey was designed to obtain detailed, census-level data in order to document the social, economic, familial, and financial factors that impact the lives of individuals from Saurath. This data was explored with the intention of understanding the disparities that exist within the village and how they possibly contribute towards out-migration.

The study revealed that the village is heavily segregated socially. This segregation has its roots in the caste system, and has persisted for generations. Caste shapes the interactions between individuals and the power dynamics inherent in the system play a role in the social disparity. Not only are the different groups separated socially, but they are also physically separated. The continued dominance by one group has created such a divide that it might prove impossible to bridge.

The economic and financial disparity is even starker than the social disparity. It was noted earlier that many within the village do not have the financial means to construct a solid home; rather most people live in huts. These huts represent the inequality of the village, as the landscape is dotted with many huts and few solid homes. In addition, few households have any real assets of value because landholdings are skewed towards the wealthy, and the poor cannot afford consumer goods such as televisions and bicycles. The chronicling of household amenities was truly insightful, as the creation of the wealth index was able to predict the level of affluence within the household. With regards to the financial positions of sampled households, it can be said that most subsist on low incomes because they do not have educations to attain good jobs. It was learned that households belonging to the upper castes significantly had greater levels of success than lower castes because they have the economic and social networks to provide support.

The next step is to look comparatively at households with and without a migrant to better understand the socio-economic conditions that presently exist. The benefit of examining the data in this manner is that it provides an insight into the lives of the households left behind.

Comparative Analysis of Households

In the previous chapter a general discussion of the aggregate data was presented in order to highlight the economic and social conditions that exist in Saurath. A step beyond understanding the aggregate data is to investigate the differences in socio-economic conditions between households with a migrant and those without. By engaging in this further investigation, a narrative can be drawn from the data providing keen insights into what are the differences between the two types of households.

Landholdings

Based on the data related to landholdings presented in Chapter 4, it was learned that the majority of survey respondents did not possess any land. What was also observed was that a small number of landholders controlled large tracts of land. This disparity in landholdings between the landed and landless may contribute to the overall economic imbalance that exists within the village.

Table 5-1, Comparison of Landownership

Land	Type of Household (%)	
	Non-Migrant	Migrant
None	197 (41.56)	45 (36.89)
0-2 Kattha	67 (14.14)	39 (31.97)
3-5 Kattha	50 (10.55)	8 (6.56)
6-10 Kattha	56 (11.81)	4 (3.28)
11-15 Kattha	18 (3.80)	4 (3.28)
16-20 Kattha	19 (4.01)	4 (3.28)
1-2 Bigha	44 (9.28)	12 (9.84)
3-5 Bigha	17 (3.59)	5 (4.10)
6-10 Bigha	4 (.84)	1 (.82)
11-20 Bigha	2 (.42)	---
Total	**474 (100.00)**	**122 (100.00)**

By looking at the differences in landholdings between households with a migrant and those without, it is observed that migrant households do not differ very much from non-migrant households as the distribution of landholdings are similar, as both groups possess little to no land; and large landholdings are confined to a few individual households. What is a surprising observation from the data is that a higher proportion of non-migrant households are landless than migrant households (Table 5-1). This result could possibly be explained by the finding that the poorest of the poor appear to not migrate; but rather the lower-middle to middle class households tends to have a higher propensity to migrate.

Total per Capita Income

The total income difference at the per capita level between migrant sending households and non-migrant households is important when trying to understand the current economic position of the migrant sending household. Low levels of income can result in a lack of household amenities, nutrition, and limited educational opportunities, which stunt both personal and professional development. The converse is true for households that possess a greater amount of income. These households are able to invest in their members and provide financial, educational, and social support which can perpetuate a virtuous cycle of affluence.

Table 5-2, Comparison of Total Incomes

Total per Captia Income in Deciles	Type of Household (%)	
	Non-Migrant	Migrant
1	65 (13.71)	27 (22.13)
2	21 (4.43)	8 (6.56)
3	45 (9.49)	21 (17.21)
4	74 (15.61)	19 (15.57)
5	13 (2.74)	5 (4.10)
6	48 (10.13)	13 (10.66)
7	61 (12.87)	11 (9.02)
8	46 (9.70)	4 (3.28)
9	51 (10.76)	9 (7.38)
10	50 (10.55)	5 (4.10)
Total	**474 (100.00)**	**122 (100.00)**

It is quite surprising to see the results in Table 5-2 as they show migrant households firmly belonging to the lower middle-class after factoring in remittance income. It seems that remittances provide a major boost to household incomes. What was learned in previous data analysis was that over 60% of migrant households are dependent solely on remittances. The incorporation of remittance income pulls the migrant sending households into a more stable position within the middle-class. Without the remittance income most households would remain in the first decile of the per capita income distribution. It seems that migration and the associated income flow play a positive role in improving the lives, at least financially, of the migrant sending households.

Educational Levels

Education is an important tool used by individuals to escape poverty. The dearth or lack of education within a household plays a significant role in determining many economic outcomes of the members. Households that possess higher levels of education seem to perpetuate education to their future generations. This is particularly true in India, where

education is stressed within households that have the means to invest in their children. In contrast, households with low levels of education appear to continue to remain with low levels of education; as it is quite difficult to progress in the educational realm without support, both financially and intellectually. By lacking educational qualifications, individuals become excluded from many types of employment opportunities.

Table 5-3, Average Male Education Levels

Educational Attainment	Type of Household (%)	
	Non-Migrant	Migrant
Illiterate	50 (10.55)	34 (27.87)
Literate w/o Education	108 (22.78)	21 (17.21)
Class 1 - 9	113 (23.84)	37 (30.33)
Class 10	77 (16.24)	12 (9.84)
Class 11	51 (10.76)	4 (3.28)
Class 12	28 (5.91)	2 (1.64)
Graduate	44 (9.28)	10 (8.20)
Post Graduate	3 (.63)	2 (1.64)
Total	**474 (100.00)**	**122 (100.00)**

When comparing migrant to non-migrant households, what can be seen from the data in Table 5-3 is that there is a great disparity between average educational levels, particularly with regards to males. Based on the data, males within a migrant household have on average a significantly lower level of education[16]. The lack of education within the household can translate into lower levels of income, and occupations that do not provide a path for professional growth, thus rendering the household in a lower level of the village economic strata.

[16] The average education figure was derived by determining the average level of education for all males within each household; and then taking the simple average of all households in aggregate. This method did not take into consideration the differences in age. All individuals were treated equally, given the lack of information on age. The figures may understate the actual level of education within the village because children younger than school going age are deemed illiterate.

Table 5-4, Average Female Education Levels

Educational Attainment	Type of Household (%)	
	Non-Migrant	Migrant
Illiterate	120 (25.32)	48 (39.34)
Literate w/o Education	138 (29.11)	36 (29.51)
Class 1 - 9	121 (25.53)	17 (13.93)
Class 10	30 (6.33)	8 (6.56)
Class 11	35 (7.38)	5 (4.10)
Class 12	13 (2.74)	4 (3.28)
Graduate	15 (3.16)	4 (3.28)
Post Graduate	2 (.42)	---
Total	**474 (100.00)**	**122 (100.00)**

It seems that the female educational levels for both migrant and non-migrant households are low, and do not vary that much[17]. What can be said of the female educational levels is that non-migrant households have slightly higher levels of education, but the difference is not significant. This finding may be reflective of trends throughout rural India, where female education levels remain lower than the male population. The reason for this is that education of females is not seen as a priority given the conservative nature of rural society.

Wealth

The wealth index is constructed in a way to better understand the composition of material assets each household possesses. The importance of this metric cannot be understated, as the material possessions of a household tell a story of how money is spent and invested. In comparison to households with a migrant, households without a migrant tend to have a more favorable composition of material assets. The asset composition of these households is significantly greater above the sixth decile; whereas, migrant households are more concentrated below the 5th decile (Table 5-5). While migrant households are

[17] Average educational attainment for females was calculated in the same manner as it was for males.

concentrated near the bottom of the distribution they are not at the absolute bottom. This finding shows that migrants in Saurath emanate from households that are not the "poorest of the poor" with regards to material assets, but rather from the lower middle class-section of society.

Table 5-5, Comparison of Wealth

Wealth Deciles	Type of Household (%)	
	Non-Migrant	Migrant
1	48 (10.13)	12 (9.84)
2	45 (9.49)	16 (13.11)
3	39 (8.23)	19 (15.57)
4	45 (9.49)	16 (13.11)
5	46 (9.70)	12 (9.84)
6	52 (10.97)	8 (6.56)
7	46 (9.70)	15 (12.30)
8	51 (10.76)	7 (5.74)
9	53 (11.18)	7 (5.74)
10	49 (10.34)	10 (8.20)
Total	**474 (100.00)**	**122 (100.00)**

Household Size

Household size can provide critical insights into the economic position of the household. Depending on the composition, size can either become an advantage or disadvantage. If the composition is favorable in the form of working age adults, then the household has the possibility of increasing their income based on more members participating in the labor force. This strength in numbers can significantly boost the potential income and savings generated by the household. However, if the household is composed mostly of individuals below the working age, and in particular small children, the result can be extreme financial strain. This strain becomes even more compounded when a single income is supporting the entire family.

Table 5-6, Number of Household Members

Number of Members Within the Household	Type of Household (%)	
	Non-Migrant	Migrant
1	9 (1.90)	3 (2.46)
2	41 (8.65)	9 (7.38)
3	66 (13.92)	16 (13.11)
4	129 (27.22)	34 (27.87)
5	96 (20.25)	29 (23.77)
6	67 (14.14)	15 (12.30)
7	25 (5.27)	7 (5.74)
8	25 (5.27)	3 (2.46)
9	5 (1.05)	4 (3.28)
10	6 (1.27)	---
11	3 (.63)	1 (.82)
12	1 (.21)	---
13	1 (.21)	---
14	---	1 (.82)
Total	**474 (100.00)**	**122 (100.00)**

What can be observed from the data related to migration is that both groups have similar family sizes. This is an interesting finding, as it would have been thought that migrant households have more members given on average their lower level of education, as education sometimes correlates with family size. But in this case, this assumption holds to be untrue, as the data vividly shows a different picture in which both groups have the same distribution.

Local Occupations

Differences in occupations between migrant and non-migrant households can tell quite a bit about where income is derived and also highlights the particular skills of the individual. The skills learned in a profession can be translated into many different fields and vocations. Being gainfully employed provides a sense of self-satisfaction to the

individual because they know that they are creating and providing value. Individuals that are not gainfully employed can feel despair, as they are not able to act upon their true potential.

A striking finding of the non-migrant households is that the majority of households are employed in the private sector. These workers are paid wages that are above the standard agricultural wage, and also provide a steady income stream in contrast to being employed solely in agriculture. Additionally, approximately 10% of these households maintain primary employment within the government; whereas, less than 1% of the migrant households are employed in the public sector (See Table 5-7). This result may be due to the higher levels of education that non-migrant households have, given that many employment opportunities within the government require certain educational credentials. Employment within the government provides a level of economic stability that is almost unattainable in the private sector.

Table 5-7, Local Occupations

Primary Occupations	Type of Household (%)	
	Non-Migrant	Migrant
Farming	37 (7.81)	6 (4.92)
Agri Labor	20 (4.22)	4 (3.28)
Shop owner	24 (5.06)	2 (1.64)
Business	6 (1.27)	---
Private Job	214 (45.15)	9 (7.38)
Government Job	46 (9.70)	1 (.82)
Domestic help	18 (3.80)	2 (1.64)
Retired/Pensioner	5 (1.05)	6 (4.92)
Unskilled Labor	59 (12.45)	13 (10.66)
Artisan	1 (.21)	---
Others specify	44 (9.28)	5 (4.10)
Migrant Remittance	---	74 (60.66)
Total	474 (100.00)	122 (100.00)

The key interesting finding from the data is that the overwhelming majority of migrant households depend on remittances as their primary source of income. This finding is

quite important because it shows that migration from the village is a critical way of supporting some households. What this finding also shows is that the children of these households are not participating in the workforce, as only a single individual is providing financial support to the households.

Chapter Summary

What was learned from the analysis was that there are some sharp differences between the two groups, but there also are a great number of similarities. One of the most interesting findings from the comparative analysis is that remittances increase the overall total income per capita, thus resulting in migrant households becoming firmly established in the middle-class. This is finding is of great importance because it shows that migration is having a positive effect within the village. By transitioning into the middle-class, households are able to upgrade their standard of living and have the opportunity to invest in human capital.

The next step is to attempt to test different variables to see if they influence the migration decision process. As was observed from the survey data, a great social and economic disparity exists within the village that appears to have a role in bringing about migration. Understanding the causes of this migration can be helpful in crafting policies related to this phenomenon.

Chapter 6 – Logistical Model

Logistic Regression

The decision to migrate to a new location is quite difficult for an individual as it involves a great deal of uncertainty. Migration decisions do not happen in a vacuum but rather are influenced by a number of social, economic, and familial factors. These cumulative factors affect each individual differently, and it is quite difficult to ascertain what exactly motivates an individual to migrate. In order to understand the factors that influence migration, the use of a logistic regression model can provide greater insights into the decision process.

Logistic regression is a method for predicting binary outcomes based on a number of input variables. For the purposes of this study the regression is attempting to predict the likelihood of migration based on a number of social and economic variables. Logistic regression was used because linear regression is inadequate for predicting a binary outcome, as the results of a linear regression would not be interpretable based on the predictor variables (Chen et al.). The main benefit to using a logistic regression model in this analysis is that many of variables are non-numerical and categorical, and thus require to be organized into hierarchies and rankings. Unlike linear regression, logistic regression is difficult to plot and its interpretation is quite unique. The outcome of a logistic model is an odds ratio which presents the likelihood of a certain event to occur (Chen et al.). For this study, the prediction is whether certain social and economic factors motivate an individual from Saurath to migrate.

Results

The logistic regression was based off of 513 observations and resulted in Chi squared of 68.41. The Chi squared indicates that model is a reasonable fit. While a lower Chi squared is ideal, the derived value from this logistic model indicates that the model is still a decent predictor. In order to obtain the logistical model, many of the input variables

were transformed into a manner that would allow for easier analysis; such transformations included creating rankings and hierarchies, and comparing sub-groups within a variable. Additionally, when interpreting the results, it must be remembered that everything is compared to a baseline category of one; and all rankings ascend from low to high. It should also be noted that what is represented in the tables is just the portions of the regression output that pertain to each variable, however, it must be remembered that all the variables used in the regression were run together.

Variables

While there are an infinite number of factors that affect migration at the individual level, a select few variables were tested to determine their relevance in the migration decision. The data on these variables was collected in the household survey. The variables included in the regression model related to factors associated with social, economic, financial, and familial conditions. These factors were tested because within the literature there is considerable debate amongst scholars as to how various factors drive out-migration.

Caste

As a way to understand what motivates individuals to migrate from Saurath, the incorporation of caste within the model can provide a greater understanding of the migration drivers. As seen in Chapter 2, caste is immensely important in Saurath, as much of the land ownership, occupation, earnings, and education are tied to this social practice. It is not just the present conditions within the household that are shaped by caste, but also the future, as the label follows individuals throughout their lifetimes. The classification appears to be a major contributor to the social and economic stagnation of various groups throughout India, as many of the lower castes, are confined to occupations that have little to no upward advancement and earning potential.

The social pressures associated with caste cannot be quantified in a manner that can best describe the reality of each household because every household is different. What can be attempted is to use caste as a proxy for understanding the overall social and economic position of the household as compared to other households of different castes. The hierarchy within the caste system determines many of the social and economic outcomes of households. For the logistic model all castes were grouped into their respective categories of GC, SC, and OBC; additionally, Brahmin's were separated from GC members because of their historical economic and politic dominance.

Table 6-1. Model Output for Caste

Caste Rank	Odds Ratio	Standard Error	z	P > |z|	95% CI
OBC	1.06	0.51	0.13	0.90	0.42 to 2.71
GC	0.67	0.38	-0.71	0.48	0.22 to 2.01
Brahmin	0.31	0.23	-1.60	0.11	0.07 to 1.30

An interesting finding is that the odds ratio of migrating decreases as the caste hierarchy is climbed. This means that households of lower castes, particularly those of the scheduled and backwards castes have a higher chance of migrating. From the model, it can be seen that the lower castes have more than twice the odds of migrating than a Brahmin; this finding is significant because it validates the anecdotal evidence from the survey showing that lower castes tended to migrate at a greater rate than upper castes. These findings can be further corroborated with other relevant data in the survey which shows associations between caste and socio-economic status. The economic position of households stuck in the lower castes are quite bad in comparison to other households, and it is therefore logical for these groups to migrate as a way to enhance their earning potential, and escape the caste based marginalization prevalent in the village.

Local Occupations

For the course of this study, the primary source of income was used as the variable for the logistic regression. There are many layers of meaning with regards to the occupation variable. Occupation can be seen as a proxy for the social and economic positions in which the households reside; as the majority of the household's social status, socialization, and income are derived by occupation. There is a certain hierarchy that exists with regards to occupations and this is true everywhere. An example being that society deems doctors as more "valuable" than individuals who are accountants. The same type of hierarchy exists at the village level in Saurath. For the purposes of the analysis the primary occupations from which each household derived the majority of their income were ranked in accordance to their average income and perceived social standing.

Table 6-2. Model Output for Local Occupations[18]

Occupation Rank	Odds Ratio	Standard Error	z	P > |z|	95% CI
Domestic Help	0.91	0.92	-0.09	0.93	0.13 to 6.53
Unskilled Labor	1.12	0.72	0.17	0.86	0.31 to 3.96
Agricultural Labor	1.10	0.87	0.12	0.90	0.23 to 5.22
Farming	0.96	0.73	-0.06	0.96	0.21 to 4.28
Private Job	0.50	0.32	-1.08	0.28	0.14 to 1.77
Shop Owner	0.44	0.44	-0.82	0.41	0.06 to 3.09
Retired/Pensioner	24.32	26.73	2.90	0.00	2.82 to 209.60
Government Job	0.20	0.26	-1.22	0.22	0.02 to 2.60

The regression took the occupation rankings and compared them to one another within the model. What can be seen is that households with occupations that are in the middle part of the hierarchy tend to have greater odds of migrating than those at the bottom and top of the hierarchy. Households that are engaged in occupations that rank within the middle of the hierarchy may have incomes that are sufficient enough for subsistence living, but not enough income for living comfortably; therefore, migrants come from

[18] All occupations were tested in the model; however, a few were excluded from the table because no output was available for them. This is because the number of individuals engaged in these occupations was too small for the model to make a prediction.

these households because they want to enhance their standard of living by supplementing their incomes with remittances. From the literature, it has been acknowledged that the middle-class tends to have a higher rate of migration than the poorest of the poor, or most affluent.

An interesting finding from the analysis is that households with primary sources of income derived from government jobs have the least likelihood of sending a migrant. It seems that those that work for the government and reside in the rural areas are able to secure a stable and relatively prosperous life. The compensation provided by government jobs is significantly greater than that of the private sector. The added benefits of having a government job include community respect as well as a retirement pension. The financial stability afford to the household because of the government job, allows for higher social and economic standard of living which is difficult to obtain in the private sector. From this vantage point, it appears unlikely that an individual from this background would want to migrate, given the relative affluence within the household.

A result that stands out from the occupation data, is that pensioners are the most likely to have a family member reside outside the village. The reason for this occurrence is that many of the elderly people within the village had previously migrated outside of the village, established their families in the urban areas, and have since returned to their native village for their retirement. The offspring of these individuals remain in urban areas, and send financial support back to their parents. Therefore, within the logistic model, pensioners have an higher odds ratio of having a migrant.

The other occupational categories that have shown greater odds of migration are farmers and laborers. Occupations such as these are physically strenuous, and not financially rewarding, resulting in a desire on the part of household members to change the economic composition of the household. What typically occurs is that a male family member migrates to an urban area and provides remittances back to the household. These remittances improve the economic position of the household and help them falling into a poverty trap.

Local Income per Capita

The per capita income at the local level can provide quite a bit of insight into the lives of a household in the rural context. The major insight can be seen in how income is spread within a household. Generating a sufficient level of income is essential to providing the minimum needs for sustaining a household. In rural India, household sizes are generally larger than in urban areas as recent census data shows rural areas have on average between 4 to 5 member, whereas urban areas have on average 4 members (Shrinivasan 2012). Additionally, the income differential between rural and urban results in rural households having significantly lower per capita incomes than their urban counterpart.. The struggle to make due with les is seen in the expenditures of rural households. Within the lower end of the income distribution, survival becomes quite difficult as basic needs are unable to be met. Households that do not have diversified income streams, and are dependent on agricultural activities, are subject to the booms and busts of commodity markets, as well a drought and floods, of which severely affect their incomes. The unanticipated increases and decreases in income make planning for a household difficult, and can result in a cash shortfall which translates into less expenditure on a per capita basis.

Households with greater local per capita incomes are able to attain a better quality of life than those with lower incomes. High local incomes come from a diversified array of economic activities, a mixture of private sector employment and agriculture, and dual income households. Access to high income employment depends on occupation, education, and familial resources. By having the resources available, households are able to spend a greater amount of their incomes on consumer goods, food, and education. In addition, the rate of savings is higher for these households, and the need for external financial resources decreases as disposable income increases. Savings can be invested in assets such as housing, land, and education, which can further augment the household income.

Table 6-3. Model Output for Local Income per Capita

Local Income per Cap Decile	Odds Ratio	Standard Error	z	P > |z|	95% CI
2	2.94	2.83	1.12	0.26	0.44 to 19.47
3	0.68	0.65	-0.40	0.69	0.10 to 4.50
4	1.41	1.29	0.37	0.71	0.23 to 8.44
5	0.67	0.61	-0.44	0.66	0.11 to 4.03
6	0.38	0.39	-0.94	0.35	0.05 to 2.85
7	0.40	0.41	-0.89	0.37	0.05 to 3.01
8	0.07	0.10	-1.86	0.06	0.004 to 1.16
9	0.40	0.45	-0.82	0.41	0.05 to 3.51
10	0.38	0.45	-0.81	0.42	0.04 to 3.99

The local occupation incomes were translated into a per capita basis, and then further transformed into deciles. The use of deciles allows for a clearer understanding as to how local income is distributed. Comparing the deciles of local income per capita, it is possible to see changes in the migration odds ratios. What was observed from the logistical analysis is that the odds of migration are greatest below the 50th percentile. In particular, between the 20th and 40th percentile the odds are the highest. This occurrence can be explained in conjunction with the findings related to occupation. It appears that most of the mid-range per capita local incomes are derived from occupations that were also in the middle-tier ranking. The incomes appear to be not enough to sustain the family, and as a result a migrant is sent from the household.

Wealth Index

The wealth index was created in order to obtain an understanding of the overall economic condition of the household. This metric was created by aggregating the material possessions of the household and assigning a relative weight to each asset. While this is not an exact measure of wealth, given that material possessions do not accurately express current financial health, the measure is still important as it provides a snapshot as to the conditions of the household. The main reason for the weakness in the wealth index is that material possessions are accumulated over time and then held for a long duration;

between acquisition of the goods and the present time, much within the household could have changed. So while the index does not reflect income, it partially shows the standard of living prevalent within the household.

Table 6-4. Model Output for Wealth Index

Wealth Decile	Odds Ratio	Standard Error	z	P > |z|	95% CI
2	0.64	0.59	-0.49	0.62	0.10 to 3.89
3	3.42	2.45	1.72	0.09	0.84 to 13.95
4	2.63	1.86	1.37	0.17	0.66 to 10.51
5	1.44	1.12	0.47	0.64	0.31 to 6.58
6	1.23	1.09	0.23	0.82	0.21 to 7.05
7	4.03	3.11	1.81	0.07	0.89 to 18.26
8	5.14	4.53	1.86	0.06	0.92 to 28.86
9	2.82	3.20	0.92	0.36	0.31 to 25.99
10	4.25	5.60	1.10	0.27	0.32 to 56.38

From the data a paradox has arisen with regards to the odds ratios of migration when taking the wealth index into consideration; the data appears to show that at the highest level of wealth, the odds of migrating are greatest. This result is in contrast to the results of other variables related to income and occupation. Those results showed that the middle-class were more likely to migrate than the affluent because they are less financially stable, and therefore need to diversity their income sources. An explanation for the paradox could be that being middle-class means that you have some of the material assets that would make for more comfortable living. The households that were shown to have a higher wealth index may actually be low-income households that possess the consumer goods that make up a middle-class.

It seems that a greater amount of data collection is needed to better understand the wealth quotient given that the current metric is just a snapshot of a single point in time. The most optimal way to calculate the wealth of individual households is to document the changes in material assets over time. Ideally, a ten year survey period would be a great way to see how the households progress with regards to material possessions. This

additional evidence would be a great way to understand the true economic wealth of the household.

Land ownership

Ownership of resources is a significant factor that creates disparities between social groups. In the case of rural India, land is a critical asset that many households strive to obtain. It was previously shown that landownership was confined to higher castes and those with greater incomes and wealth. While there may not be an intentional exclusion of the lower-castes with regards to land ownership, there exists a great divide between the landed and the landless.

Table 6-5. Model Output for Land Ownership

Land Ownership	Odds Ratio	Standard Error	z	P > |z|	95% CI
0-2 Kattha	0.93	0.50	-0.14	0.89	0.33 to 2.64
3-5 Kattha	1.08	0.65	0.12	0.91	0.33 to 3.53
6-10 Kattha	0.66	0.51	-0.54	0.59	0.15 to 2.96
11-15 Kattha	0.61	0.63	-0.47	0.64	0.08 to 4.64
16-20 Kattha	2.96	3.12	1.03	0.30	0.37 to 23.40
1-2 Bigha	0.76	0.66	-0.32	0.75	0.14 to 4.17
3-5 Bigha	1.68	1.73	0.51	0.61	0.23 to 12.57
6-10 Bigha	4.15	6.29	0.94	0.35	0.21 to 81.16
11-20 Bigha	1.00	---	---	---	---

The regression function shows that the odds of migrating are highest when a household owns either less than six Kattha or more than two Bigha's of land. What can be inferred is that it may not be economically productive to have excess labor within the household. When landholdings that are small, the amount of labor used for agricultural activities is significantly less than mid-sized holdings. One of the finding from analyzing landholdings is the individuals from lower income levels possess smaller holdings of land and have a greater number of children; The imbalance in landholdings and household size results in excess of labor. What typically occurs on small landholdings is that members of the household work the land; however, if there are too many household

members, their contribution becomes marginally effective. Individuals that are not contributing towards the households seek employment opportunities outside of their village because local opportunities are not sufficient.

Larger landholders seem to have a similar problem to small landholders with regards to idle labor. What differentiates the large landholders is that there is a cultural reluctance to engage in physical labor, particularly, among the Brahmins. What was observed in the village is that the larger landholders employ laborers to work the land. The families of the large landholders do not engage in physical work, but rather they spend their time in schools and enhance their educations. The higher level of education results in greater personal ambitions to live in a more urbanized environment and find employment in fields that can maximize income; therefore, members of landholding families migrate out of the village.

Chapter Summary

What was learned from examining the data is that the decision to migrate is complex and is not determined by any one factor. But rather, a multitude of social and economic forces that create a situation in which migration becomes a compelling option for the individual. After running the regression analysis on a few select variables, what was learned is that the strongest predictors from the analysis are (1) caste (2) income, and (3) occupation. While an initial hypothesis regarding these factors was made based on the descriptive statistics, empirical evidence now shows that these factors influence the migration decision.

As previously described, the division of labor in rural society is broken down by caste, making it quite difficult to change a household's social and economic trajectory. Members of the same caste end up working menial or unskilled jobs, resulting in a vicious cycle of intergenerational poverty. To escape this cycle, migration can provide an opportunity to move beyond caste and start fresh in a new city. The removal of social

barriers changes the mindset of the individual, so that they can grow both personally and economically.

Local income is important because it provides a picture of the economic conditions which are prevalent in the household, especially at the per capita level. The reality of having a low local income per capita, is that many important aspects of life such as health, education, and marriage, are compromised because of a lack of income. One way to avoid being restricted by income is to increase income to a point in which the household can make positive life decisions without having to worry about how to finance them. Increasing income in the rural setting is quite difficult as there are only a few options with regards to making a living. A more reliable approach would be to send a migrant to an urban area and then receive remittances. This type of investment would boost income and improve conditions within the household. The analysis showed that the odds of migration were higher in lower income households, and that the remittances sent back helped improve the lives of the household members.

The occupations of members of the household were shown to be relevant in the migration decision because occupations can be associated with socio-economic status. What was observed from the data is that the households engaged in occupations that were typical of the middle-class, appeared to have a greater odds of sending a migrant.

The intention of determining the factors that induce migration within the Saurath, is to find a solution to reduce out-migration. The loss of young people from the village negatively affects Saurath both economically and demographically. In the next section, pragmatic policy prescriptions will be given in a manner that will allow the village to retain its youth population, while at the same time enhancing agricultural productivity, increasing local incomes, and making the village more attractive for investment. By proposing the groundwork necessary for a model village, it is hoped that this first step will be the catalyst that transforms the village into a model for the rest of rural India.

Chapter 7 – Conclusion

Conclusion

The present study examined the village of Saurath in order to enhance the scholarly knowledge on rural-urban migration in India. Even though extensive, empirically sound research on the topic of migration has been conducted for many years, cases need to be re-examined in order to test current theories in the modern social and economic climate. Much of the canonical research on migration was conducted at a time prior to today's level of globalization. The economic changes occurring in developing countries have challenged many of the previous assumptions as to why individuals migrate.

Findings

This thesis was designed with the intention of investigating out-migration from Saurath. The angle that it takes is to examine the households left behind by the migrants. A serious effort was made to examine what differentiated households that sent a migrant from those that did not. This information is quite important as it provides a detailed understanding of the social and economic differentials between the households. The second part of the analysis involved building a logistic regression model that examined a few social and economic factors, to better understand their effect upon the migration decision. The logistic regression provided odds ratios for each of the variables tested, indicating a higher or lower likelihood of migration, when taking all variables into consideration.

The main discovery from the research is that individuals from lower-middle and middle-class households appear to be migrating at a greater rate than others. It was originally thought that individuals from the poorest section of society would migrate due to economic necessity; however, it seems that this group just does not have the resources,

education, and social connections to allow them to make the transition as easily. An explanation for the migration of the middle-class may relate to their social and economic position within the village. It seems that the conditions in which they find themselves results in a great deal of economic and social stress. With regards to social arrangements, the village is highly stratified by caste. The separation of individuals creates a social environment that is highly unfair to individuals of lower castes; as socialization, education, and occupations are highly influenced by caste. Many individuals within the middle-class are not from the upper castes but rather from the lower castes. The continued marginalization may lead individuals to leave the village. Economically, the lower levels of per capita income within these households results in a basic need for more income, and the lack of occupational diversification within the village, further necessitates the move. These middle-class households possess the resources need for undertaking migration and because of this, they actively migrate. What was also learned from the investigation is that the majority of migrant households are single income, and that the remittances sent back provide a reasonable middle-class existence for the families left behind.

Areas of Future Exploration

Moving beyond the question posed in this thesis, a further investigation of migration activity from Saurath should be researched. This paper investigated the households that were left behind by the migrant; however, research on the actual migrants themselves would help resolves many questions related to motivations. By contacting and interviewing migrants from Saurath, in a city like New Delhi, greater insights could be learned about their lives. By obtaining specific information about the migrants such as (1) where they live, (2) what they do, and (3) how they spend their money, one can better piece together their lives and understand their ambitions.

A second area of research that should be conducted is an ethnographic analysis of Saurath over a period of time. The documentation of individuals leaving and entering the village would provide a greater understanding of the migration phenomenon. Over a longer

period of time, the research would be able to chronicle the exodus of young people and the return of retirees. The comprehensive nature of the study would allow the researcher to draw more conclusions with regards to why out-migration occurs from Saurath.

A third possible area of research has to do with the economic conditions within and around Saurath. A research study of the local economy would be highly beneficial to determine if the labor market is adequately able to absorb workers, and whether or not tight labor conditions is a relevant factor to out-migration.

Appendix 1 Survey

Questionnaire for Individual Household

Please tick the respondent's category applicable from below.

Q.1 What kind of house does the respondent lives in?

Brick and Mortar	**Straw and Mud (Jhopri)**

Q.2 Please fill the followings for respondent (selected)

Respondent Name	
Address	
Age	
Gender	
Education	
Religion	
Caste	
Whether SC/ST/OBC	

Q.3 How long has your family lived in this village?

Less than one year	1-3 Years	More than 4 Years

Q.3a Please indicate the kind of house you live in?

Own House	**Rented House**

Q.3b If you have your own house then, do you have papers for the land?

Yes	No

Q.3c Do you have electricity connection in your house?

Yes	No

Q.3d If "Yes", then specify the average electricity Hrs per Week.

Hrs.

Q.3e Do you have an indoor toilet?

YES	**NO**

Q.3f Do you have your own water pump?

YES	**NO**

Q.3g Do you keep animals in the house?

YES	**NO**

Q.4 What is the main source of household income to support your family?

(Please tick the appropriate one)

S. No	**Profession**	√
1	Farming	
2	Agri Labor	
3	Petty trader	
4	Shop owner	
5	Business	
6	Pvt. Job	
7	Govt. Job	
8	Domestic help	
9	Retired/Pensioner	
10	Unskilled labor (Daily wage worker)	
11	Artisan	
12	Student working	
13	Others specify	

Q.5 If you/your family owns land, then specify the land holding. (Tick only one)

Amount of land	Please Tick	Amount of land		Please Tick
0 – 2 Kattha		Less than 2 Bigha		
3 – 5 Kattha		3 to 5 Bigha		
6 – 10 Kattha		6 to 10 Bigha		
11- 15 Kattha		11 to 20 Bigha		
16 – 20 Kattha		More than 20 Bigha		
		Not Applicable		

Q.6a. Does your family belong to BPL? (Below Poverty Line)

a) Yes	b) No

Q.6b If "Yes" then does your family have BPL card?

a) Yes	b) No

Q.7 Please indicate total number of family members who reside with you?

Number:

Q.8 How many rooms do you have in your home? Please tick

Number of Rooms	
1	
2	
3	
4	
Above 5	

Q.9 Please indicate the education qualification of the family members residing with you.

Education Qualification	Males	Females
Illiterate		
Literate but never been to school		
Class 1-9th		
Class 10th		
Class 11th		
Class 12th		
Graduate		
Post Graduate		

Q.10 Please provide the following family details for those who resides here with you

Age Group	Male	Female	Occupation	How many wage earners	Total Income
0 -15					
16 – 30					
31 – 50					
Above 50					

Q11 Please provide details of family members who do not live with you (moved away) but helps the family financially.

Age	Gender	Occupation	Qualification	City Residing	His/her Monthly Income	Avg. monthly amount received from him/her (Rs.)

What is your relation to this person? _____

Q11.b How does the person send money back to the village?

Method	Please Tick
Online banking transfer	
Traditional money transfer service	
Check	
Informally through friends	
Personally when they visit	

Q.12 Why did the family member leave the village?

Reasons	Please Tick
Job	
Education	
Vocational Training	
Other (Specify)	

Q.13 What is their living situation in the city?

Living Arrangement	Please Tick
Own Flat	
Shared Flat	
Shared Room	
Domestic Quarters	

If they share a flat or room; how many people do they share it with? _____

Q.14 What is your satisfaction level regarding this situation?

Unsatisfied	Satisfied	Very Satisfied

Q.15 Please mark from the grid below your family's <u>total monthly household income</u> (residing earners + money from outside family members).

	Monthly household income	√
1	Below 1000	
2	1001-2000	
3	2001-3000	
4	3001-4000	
5	4001-5000	
6	5001-6000	
7	6001-7000	
8	7001-8000	
9	More than 8000 (Specify)	

Q.16 Is there anyone in your family involved in making <u>artisans products or local production</u> (e.g. paintings, achaar, baskets)?

a) Yes	b) No

If "Yes", please specify the product. _____

Q.16b If "Yes" then, please specify their level of involvement in the production?

Involvement	**Please Tick**
Minimally Involved (hobby)	
Moderately Involved (supplementary income)	
Professionally Involved (main source of income)	

Q.17 Which of these does your family own?

	Appliances	**Please mark**
1	Regular telephone	
2	Mobile telephone	
3	Radio	
4	Television with cable	
5	Television without cable	
6	Two wheeler	
7	Bicycle	
8	Tractor	
9	Car	

10	Kitchen appliances (Refrigerator, grinder etc.)	
11	Cooking Gas	
12	CD/VCD Player	
13	Generator	
14	Battery/Inverter	
15	Water pump	
16	Any other (Specify)	

Q.18 Please specify the approximate <u>monthly amount spent</u> by your household on each of the following <u>for the family</u>.

	Activity		**Amount (Rs)**
1	Education (School/college/tuitions)		
2	Computer Education		
3	Others Education (Specify)		
4	House rent (If any)		
5	House tax/ property tax		
6	Food		
7	Mobile Phone		
8	Regular Phone		
9	Postal Service		
10	Transportation		
11	Clothing		
13	Farming or Job related activity	List the months when high expenditure is incurred.	
14	Entertainment/ Leisure		
15	Cable TV		
16	Monthly Expense on generator (Fuel, maintenance etc.)		

17	Loan premium	
18	Medical expenses (if any)	
19	Others Specify	
	Total	

Q.19 If you are a farmer then, specify the monthly amount spent on following agricultural activities.

Activity	**Amount in Rs.**
Seeds	
Fertilizers/Pesticides	
Equipment (Tractor etc.)	
Govt. Services	
Bribe	

Q.20 Please specify average <u>monthly savings</u> of your household?

Rs.

Q.21 What do you plan on using your savings for? Please select (Multiple choice possible)

Category	√
School	
Wedding	
Mobile Phone	
Bicycle	
Motorcycle	
House	
Other	

Q.22 In your opinion, your village is more developed or less developed than adjoining villages?

a) More Developed	b) Under Developed	c) Equally Developed

Q.23 Regarding social involvement please tick from below that applies for you/your family member? (Tick only one)

a)Elected member of panchayat	b) Participate in village activities	c)None

Q.24 Does any member of the household know how to operate computer?

a)Yes	b)No

Q.25 If 'Yes' please list the gender and ages.

Gender	Age	Gender	Age

Bank/Loan

Q.1 Do you or your family members use bank accounts?

a)Yes	b)No

Q.2a How many members of your family have individual Bank Accounts?

Gender	Age	Type of Accounts	Private or Govt. Bank

Q.3 Has anyone in your family ever taken a loan?

a)Yes	b)No

Q.4 If "Yes" then how many times loan was taken in last 3 years? (Tick only one)

a) Only Once	b) 2 Times	c) More than 2 times

Q.5 What was the loan for? Mention amount (Rs.) of lean in box, if applicable

Project / Purpose	**Amount in Rs.**
Education Loan	
Home Loan	
Vehicle Loan	
Business Loan	
Personal Loan (To purchase goods like scooter, pump etc.)	
Agri. Related loan	
Others	

Q.6 Did you have any trouble getting a loan?

a) Yes	b) No

Q.7 If "Yes" then please mention the problems that faced?

1._____

_____

2_____

Q.8 Were you able to repay the loan amount in stipulated time?

a) Yes	b) No

Q.9 Did you paid the installments regularly?

a) Yes	b) No

Q.10 Were you able to repay the loan amount in stipulated time?

a) Yes	b) No

Q.11 Who did you take the loan from?

Money lender	**Microfinance**	**Bank**	**Relatives**	**Friends**	**Other**

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