Assessment of Health, Hygiene and Nutritional status of Migrant Labourers: Scientific Intervention and Community Participation.

(With a special focus on Migrant Labourers in Himachal Pradesh)

Report

Submitted by
Apoorva Bhatia
Priya Agarwal
Eare Neena
Anjaly Mehla
Nidhi Makhijani

Under the guidance of
Dr Ramna Thakur
Acknowledgement

The project was a success due to the help and support of many people. We would like to acknowledge the help of all the people who contributed towards the completion of our project.

Firstly we would like to thank our mentor, Dr. Ramna Thakur, for suggesting us the idea of e rally good study and helping us through the project. We would also like to thank Dr. Venkat Krishnan, the course coordinator, for guiding us to proceed with the project.

All the numerous migrant labourers whom we interviewed to collect the data for our study deserve equal appreciation for cooperating with us and providing us with authentic data to complete our study.

We would like to thank our friends who supported us through the project.

We would like to express gratitude and appreciation for all the people mentioned above to help us complete our study and make our project successful.

-ISTP Group 5

(Anjaly Mehla, Apoorva Bhatia, Eare Neena, Nidhi Makhijani, Priya Agarwal)
## Contents

**Chapter 1. Introduction**  
4

**Chapter 2. Literature Review**  
6  
2.1 Background  
6  
2.2 Participant Demographics  
6  
2.3 Vulnerability and Hazards for Laborers  
10  
2.4 Case Studies  
16  
2.5 Types of Internal Migration in India  
17  
2.6 Summary  
17

**Chapter 3. Methodology**  
18  
3.1 Objectives of the Project  
18  
3.2 Tools and Techniques to accomplish the Objectives  
18  
3.3 Intervention  
18

**Chapter 4. Results and Discussion**  
20

**Chapter 5. Recommendations and Conclusion**  
35

**Bibliography**  
43
Chapter 1. Introduction

Whether migration is a cause or a consequence of development has been widely debated in academic circles. Himachal Pradesh observes a huge group of migrants coming to the state every year. According to a study, every year in May, more than 70,000 migrant laborers travel from the plains of central India to the higher altitudes of the Himalayas to work with the Border Roads Organization. They live alongside the roads in small (about 40-200 persons) temporary settlements made of plastic sheets and flattened tin barrels and move as the roads they build advances into new territories.¹

These migrants are contributing to the overall development of the state in terms of construction, facilitating tourism, as well as contributing to the economy of the state. But their living status and condition gets largely overlooked by the government as well as by the local residents. These workers and their families face problems in securing shelter, education and health care. The dichotomy regarding the child laborers, for instance, is clearly reflected in report of National Commission for the Protection of Child Rights (NCPCR) to Planning Commission, India “Abolition of Child Labor in India”.²

It states:

“Surprising is the case of HP which has shown significant increases in school attendance and in literacy levels. However there is a dramatic increase in the percentage of children in the age group of 5-14 years who are classified as workers both main and marginal. In HP the percentage of child workers has gone up from 5.5% in 1991 to 8.6% in 2001. This could be a result of larger numbers of children combining work with schooling or simply better enumeration of children’s unpaid work”³.

We start with the analysis of the living conditions of the migrant laborers in Himachal Pradesh. If one chooses to visit the colonies of the migrant laborers, he/she will be struck by their extremely poor living conditions, low standards of health and hygiene and poor nutritional status. They live in conditions similar to slums and face problems like those of slum dwellers. Many live in temporary shacks with no provision of potable water and sanitation. Those who migrate with families have malnutrition among the children. Anaemia, skin diseases, fevers, STI, tuberculosis and silicosis (Sirmour district) are common diseases and in higher reaches cutaneous leishmaniasis is prevalent (Kullu & Kinnaur districts). There is a lack of awareness regarding the health status and preventive actions to be taken in case of diseases. Health becomes a concern only when it affects their ability to earn wages.

It was also observed that the migrants from both within the state and outside face critical problem of accessibility to health institutions and these migrants end up going to private clinics. Registration of pregnant women or their follow up is lower in migrant laborers. Complete immunization of children or any kind of follow up is completely lacking, enrollment in formal & non formal schools is minimal and all these are complemented with poor and unhygienic living

１ http://dickey.dartmouth.edu/docs/India_GHI_Fellowship_2013.pdf
conditions. This brings us to the fact that migrant workers face unique health risks that require solutions beyond the realm of their own traditional occupational health and safety.

Thus, migrant worker health is increasingly important (as it comes under the UN’s endorsement of the Guiding Principles on Business and Human Rights, and the identification of migrant workers as a group specifically requiring protection related to health). We also know that mental and psychosocial health risks are influenced by the quality and environment of housing.

A proper study needs to be done regarding the migrant laborers in Himachal Pradesh to get the accurate status of their health, hygiene and nutritional status. The statistics can certainly help to improve their living conditions status by providing them solutions to their problems, creating awareness and taking their voice to the NGOs and the local people who can help them progress in an environment which is as of now not at all suited for an overall grooming.

In this regard, we plan to start our study by measuring the present health, hygiene and nutritional status of workers in locally accessible migrant laborer communities (men, women and children separately). For this, instruments the BMI index will be used. We will assess the data and produce a statistical report of conditions among migrant laborer in Mandi district and Kamand village. Solutions can then be found out in a better way.

Finally, we will create an awareness campaign to promote feasible solutions, including influencing the daily practices of the people to improve their health conditions.

This marks the main goal of the project.
Chapter 2. Literature Review

2.1 Background

Migration in India has existed historically, but in the context of globalization and opening up of the world economy it has assumed special significance for the country. As a consequence of both historical and economic factors, there are serious income disparities, agrarian distress, inadequate employment generation, vast growth of informal economy and the resultant migration from rural areas to urban, urban to urban and backward to comparatively advanced regions in the most appalling conditions. Figure 1, below, shows various causes of migration in India.

![Figure 1: Reasons for migration in India](image)

2.2 Participant Demographics

There are survey data regarding migration in India with the statistics as follows: around 60% of migrants change their residences within their district of birth and 20% within their State, while the rest move across the state and big cities. The total migrants as per the census of 2011 are 314 million and in these, 268 million migrated from one state to another and 41 million were interstate migrants, 5.1 million migrated from outside the country, and total migrants by place of birth were
1,028,610,328.³

It is estimated that there are at present around 80 million migrants of which, 40 million are in the construction industry. Of these, 92% of the domestic workers are women, girls and children and 20% of these females are under 14 years of age, as per a study conducted by the organization “Social Alert”.

In Himachal Pradesh as of 2011, there were 386 slum areas with a population of nearly 15,500 and these slums have a population of both migrants and people who are below poverty line, and the percentage of child workers increased from 5.5% in 1991 to 8.6% in 2011.⁴

Figure 2, below, shows the migration trends to the different states and the reasons for the same.⁵

![Figure 2: Net Migration Rate (Migrants per 1000 population)](image)

Figure 3 and 4, below, show the statistics of these migrations.

From this we observe that almost 4.7 people per thousand migrate to Himachal Pradesh every year (this includes seasonal and temporary migrants of all ages).⁶ Figure 5 gives a pictorial representation of the migration patterns.⁷

The increase in the migration rate to urban areas has primarily occurred due to an increase in migration rate for females, which has been raising from 38.2 percent in 1993 to 41.8 per cent in 1999-2000 to 45.6 per cent in 2007-08. Although women migrants declare to migrate on account of

---

³ [http://censusindia.gov.in/Census_And_You/migrations.aspx](http://censusindia.gov.in/Census_And_You/migrations.aspx)
⁵ [http://blog.gramener.com/281/migration-patterns](http://blog.gramener.com/281/migration-patterns)
Marriage, many of them take up work, joining the pool of migrant workers in urban areas. Male migration rate in urban areas has remained constant over this period (between 26 and 27 per cent), but employment-related reasons for migration of males increased from 42 per cent in 1993 to 52 per cent in 1999-2000 to 56 per cent in 2007-08. This shows the increasing importance of employment-related migration to urban areas. Internal migrants are thus key actors of prosperous cities, boosting economic activity and economic growth (Bhagat, 2011).

About 30 per cent of internal migrants in India belong to the youth category in the 15-29 years age group. Child migrants are estimated at approximately 15 million. Furthermore, several studies have pointed out that migration is not always permanent and seasonal and circular migration is widespread, especially among the socio-economically deprived groups, such as the Scheduled Castes (SCs), Scheduled Tribes (STs) and Other Backward Castes (OBCs), who are asset-poor and face resource and livelihood deficits.

Migrants do not constitute a homogenous category, and migrants are differentiated according to gender, class, ethnicity, language and religion. Women constitute an overwhelming majority of migrants, 70.7 per cent of internal migrants as per Census 2001, and 80 per cent of total internal migrants as per NSSO (2007-08). Marriage is given by women respondents as the most prominent reason for migrating: cited by 91.3 per cent of women in rural areas and 60.8 per cent of women in urban areas (NSSO 2007-08). However, several researchers are working to uncover the more complex reality lying behind statistics and consider that women migrate for a number of other reasons that are not captured by census and macro-data surveys.

Lead source states of internal migrants include Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh, Andhra Pradesh Chhattisgarh, Jharkhand, Odisha, Uttarakhand and Tamil Nadu, whereas key destination areas are Delhi, Maharashtra, Gujarat, Haryana, Punjab and Karnataka. There are conspicuous migration corridors within the country: Bihar to National Capital Region, Bihar to Haryana and Punjab, Uttar Pradesh to Maharashtra, Odisha to Gujarat, Odisha to Gujrat, Odisha to Andhra Pradesh and Rajasthan to Gujarat (UNESCO/UNICEF, 2012b).

Migration in India is primarily of two types: (a) Long-term migration, resulting in the relocation of an individual or household and (b) Short-term seasonal/circular migration, involving back and forth movement between a source and destination. Estimates of short-term migrants vary from 15 million (NSSO 2007-2008) to 100 million. Yet, macro surveys such as the Census fail to adequately capture lows of short-term migrants and do not record secondary reasons for migration.

The intensity of migration is expected to increase in the future as a response to economic crises, political instability and global environment change. In particular, global environment change, especially climate change impacts will directly affect population mobility. Estimates indicate that by 2050, 200 million people worldwide may become permanently displaced due to environmental factors such as sea level rise, loads, more intense droughts, and other climate-driven changes.
### Table 1: Temporary and Seasonal Migration Rates (Migrants Per Thousand, Ratio to Sample Survey, 2007-08)

<table>
<thead>
<tr>
<th>State</th>
<th>Temporary Migrants (Per Thousand)</th>
<th>Seasonal Migrants (Per Thousand)</th>
<th>Total Migrants (Per Thousand)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andhra Pradesh</td>
<td>78.95</td>
<td>10.5</td>
<td>89.45</td>
</tr>
<tr>
<td>Assam</td>
<td>18.9</td>
<td>176</td>
<td>194.9</td>
</tr>
<tr>
<td>Bihar</td>
<td>204.3</td>
<td>11.8</td>
<td>216.1</td>
</tr>
<tr>
<td>Delhi</td>
<td>212.5</td>
<td>28.2</td>
<td>240.7</td>
</tr>
<tr>
<td>Goa</td>
<td>133.3</td>
<td>25.3</td>
<td>158.6</td>
</tr>
<tr>
<td>Gujrat</td>
<td>1.14</td>
<td>23.2</td>
<td>24.3</td>
</tr>
<tr>
<td>Haryana</td>
<td>258.9</td>
<td>12.7</td>
<td>271.6</td>
</tr>
<tr>
<td>Himachal Pradesh</td>
<td>1.23</td>
<td>21.9</td>
<td>23.1</td>
</tr>
<tr>
<td>Jammu and Kashmir</td>
<td>32.8</td>
<td>28.5</td>
<td>61.3</td>
</tr>
<tr>
<td>Karnataka</td>
<td>578.3</td>
<td>22.9</td>
<td>601.2</td>
</tr>
<tr>
<td>Madhya Pradesh</td>
<td>1.52</td>
<td>23.5</td>
<td>25.0</td>
</tr>
<tr>
<td>Maharashtra</td>
<td>728.1</td>
<td>27.7</td>
<td>755.8</td>
</tr>
<tr>
<td>Manipur</td>
<td>86.6</td>
<td>4.3</td>
<td>90.9</td>
</tr>
<tr>
<td>Meghalaya</td>
<td>25.8</td>
<td>11.1</td>
<td>36.9</td>
</tr>
<tr>
<td>Nagaland</td>
<td>4.4</td>
<td>1.0</td>
<td>5.4</td>
</tr>
<tr>
<td>Orissa</td>
<td>427.8</td>
<td>12.0</td>
<td>439.8</td>
</tr>
<tr>
<td>Punjab</td>
<td>127.7</td>
<td>5.6</td>
<td>133.3</td>
</tr>
<tr>
<td>Rajasthan</td>
<td>273.3</td>
<td>14.0</td>
<td>287.3</td>
</tr>
<tr>
<td>Sikkim</td>
<td>8.7</td>
<td>3.3</td>
<td>12.0</td>
</tr>
<tr>
<td>Tamil Nadu</td>
<td>328.6</td>
<td>14.8</td>
<td>343.4</td>
</tr>
<tr>
<td>Telangana</td>
<td>17.9</td>
<td>5.6</td>
<td>23.5</td>
</tr>
<tr>
<td>Uttar Pradesh</td>
<td>1.97</td>
<td>11.6</td>
<td>13.5</td>
</tr>
<tr>
<td>Uttarakhand</td>
<td>30.9</td>
<td>3.6</td>
<td>34.5</td>
</tr>
<tr>
<td>West Bengal</td>
<td>1.56</td>
<td>20.0</td>
<td>21.5</td>
</tr>
</tbody>
</table>

**Source:** 4th National Sample Survey 2007-08, Office of the Registrar General & Census Commissioner, India.
2.3 Vulnerability and Hazards for Laborers

In the absence of proofs of identity and residence, internal migrants are unable to claim social protection entitlements and remain excluded from government sponsored schemes and programmes. Children face disruption of regular schooling, adversely affecting their human capital formation and contributing to the inter-generational transmission of poverty. Further, migrants are negatively portrayed as a “burden” to society, discouraged from settling down and excluded from urban planning initiatives. Most internal migrants are denied basic rights, yet internal migration is given very low priority by the government in policy and practice, partly due to a serious knowledge gap on its extent, nature and magnitude.

Vulnerability of migrant workers can be classified into several measurable dimensions. According to recent research, the top concerns include:

1. Wage discrimination
2. Sexual harassment
3. Child labor
4. Nutritional deficiencies
5. Dangerous work conditions

To discuss a few of them:

**Wage Discrimination:** The Asia and Pacific region continues to experience traditional forms of discrimination, such as those based on gender and ethnic origin and is increasingly confronted with new forms of discrimination brought about by structural economic reforms, economic openness and greater movement of people. The growing numbers of migrant workers in the region face new forms of discrimination. Racial discrimination, xenophobia, intolerance are all reflected in low wages, long and exhausting working hours and violence. Migrant workers are
among the groups most affected by economic downturns, partly because they are often employed in sectors such as construction or tourism which tend to get hit first. One of the most frequent charges levelled against migrant workers is that they accept work for lower wages and lead to the disintegration of benefits and working conditions in the host country. Again, the lack of hard data on this subject makes it difficult to argue the point with any clarity, but the basic proposition has some support. Daily casual workers are paid more as compared to seasonal labor in all states for similar activities conducted. Within seasonal labor, the wage rate for migrant workers is lower compared to local workers. The difference in wage rate between seasonal and daily wage labor and between migrant labor and local labor varies from 5%-10% in different states.

Figure 6: Migrant Labourers

**Sexual Harassment:** Marriage is given by women respondents as the most prominent reason for migration. However, many get engaged in economic activities, but it is generally not recorded. Women migrants, especially those in lower-end informal sector occupations, remain invisible and discriminated against in the workforce. Female migrants are less well represented in regular jobs and are more likely to be self-employed. However, they are paid less than male migrants and don't have facilities like maternity leave, other maternity entitlements, or breast-feeding breaks at work site. Lack of access to proper sanitation has serious health consequences but women and girls suffer in silence because of the stigma around women's personal hygiene issues. Gender-related violence is another critical issue as these women are vulnerable to sexual harassment and abuse, especially in the hands of agents and contractors. The workplace might not be safe for female workers. Sexual harassment and discrimination of gender are very common in this community. Most of the women are uneducated and this make them easy target of both harassment and exploitation. Due to lack of overall enforcement of state and center, many rules are violated at this stage. Poverty may cause women migrants to get pushed into sex work at the destination.
Child Labour: India is sadly the home to the largest number of child labourers in the world. Most child migrants move with their families. While migration serves as a common economic coping or survival strategy for households in many parts of the world, and can provide families and their children with new opportunities, it can also make them more vulnerable. However, migration in and of itself does not mean that children will necessarily end up in child labour. The census found an increase in the number of child labourers from 11.28 million in 1991 to 12.59 million in 2001. M.V. Foundation in Andhra Pradesh found nearly 400,000 children, mostly girls between seven and 14 years of age, toiling for 14-16 hours a day in cottonseed production across the country of which 90% are employed in Andhra Pradesh. As important as it is to protect migrant children, it is equally necessary to better enable them to protect themselves, especially where States fail in their protection duties. This is particularly relevant in situations where State structures are weak. Governments, international agencies and others should provide children with information and resources on what dangers exist and what to look out for. Children should also be informed of their basic rights, such as the right to be protected from child labour (including the notion of minimum working age), the right to education, decent work, and freedom from forced labour. It is also important that children be
given life skills training including self-protection skills and confidence building, and vocational training and education.

Figure 9: A child helps in harvesting the wheat crop in the Indian state of Bihar, where many construction laborers come from. Many farmers here do not own land, and instead work as daily wage laborers on other people’s properties.

Figure 10: Small Children employed at Construction Sites
Problems due to Identity Crisis:-
When the migrants move from one place to another, it is hard for them to get identity such as ration card, voters card etc. Proving their identity is one of the core issues impoverished migrants face when they arrive in a new place. People below Poverty line are provided with ration card so that they can buy food grains and other commodities like kerosene etc. at very cheap price from ration shops. But once they migrate, it is very hard to get a new ration card of that place because they cannot use the card they have been using earlier. Therefore, this cuts off the ration at low price and also ration card is the necessary proof of identity to access public services like hospital, education and care etc. Despite the economic imperatives that drive migration, migrant workers essentially remain an unbanked population. Since migrants do not possess permissible proofs of identity and residence, they fail to satisfy the Know Your Customer (KYC) norms as stipulated by the Indian banking regulations. They are thus unable to open bank accounts in cities. This has implications on the savings and remittance behaviors of migrant workers.

Public Health Inclusion:
The health of migrants is affected by a host of factors, such as the health environment in the place of origin, transit and destination, the conditions of the journey, access to drinking water and basic amenities, and food and nutritional intake. At the destination, migrants are exposed
to health risks including communicable diseases like malaria and tuberculosis, and occupational health hazards such as respiratory problems, lung diseases, allergies, kidney and bladder infections, back problems and malnutrition. Migrants often suffer injuries and accidents at worksites, yet do not enjoy any medical care or compensation.

Women and adolescent girls are doubly disadvantaged in this regard. In India, though the sex ratio (females per 1000 males) has increased from 933 in Census 2001 to 940 in Census 2011, a disturbing trend has been revealed in child sex ratio (0-6 years), which has decreased from 927 to 914 for the same period. India has the worst gender differential in child mortality of any country in the world, with girls’ survival disadvantage being particularly acute in the one to four age group (UNDESA, 2011). Further, under-five mortality rate for girls in India is high, at 64 per thousand live births, as compared to 55 per thousand live births for boys (Planning Commission, 2012).

Among women and children migrants, maternal and child health indicators remain poor due to early marriages (13-18 years), early pregnancies (15-17 years), giving birth in the absence of trained birth attendant, frequent childbirth, poor health after successive childbirths with little spacing, no exclusive breastfeeding for the first six months, and no complementary feeding thereafter. Despite the existence in India of the Prohibition of Child Marriage Act (2006), early marriages continue, and mark the beginning of a vicious circle, often leading to poor health, malnutrition and stunting, and to the exclusion of young girls from education.

Internal migrants suffer from a high HIV burden (3.6 per cent), which is ten times the HIV prevalence, among the general population (NACO, 2010). Their vulnerability has been attributed to personal isolation, enhanced loneliness and sexual risk taking, lack of HIV awareness and of social support networks at both source and destination. In addition to the exclusion they face from the local community at destinations due to their ethnicity, linguistic differences, religious beliefs and socio-economic conditions, migrants living with HIV and AIDS face double discrimination and stigmatization. Migrant women living with HIV suffer the most from multiple and intersectional vulnerabilities (IOM, 2009).

Migrants arriving at high prevalence HIV destinations remain at high risk of acquiring HIV, and bringing it back to their home villages and towns. A recent study has examined linkages between male out-migration and HIV transmission to married women in districts with high out-migration (UNDP, 2011). This remains an important phenomenon for further research, in particular since data shows that the percentage of women who reported HIV in India increased from 25 per cent in 2001 to 39 per cent in 2009. Moreover, it has been observed that only 10 per cent of women living with HIV in 2009 were female sex workers, whereas 90 per cent acquired HIV infection from their husbands or intimate sexual partners (UNDP, 2011).

Figure 13: Action needs to be taken to reduce HIV AIDS in migrant workers
Nutritional deficiency:
The nutritional status of migrant children is worst amongst all urban groups and is even poorer than the rural average. Urban migration has not provided them salvation from poverty and under nutrition. Another distressing feature is the lack of any significant improvement over the years in this population. Most common causes of malnutrition include faulty infant feeding practices, impaired utilization of nutrients due to infections and parasites, inadequate food and health security, poor environmental conditions and lack of proper child care practices. High prevalence of malnutrition among young children is also due to lack of awareness and knowledge regarding their food requirements and absence of a responsible adult care giver. With increasing urban migration in the years ahead, the problem of malnutrition in urban slums will also acquire increasing dimension unless special efforts are initiated to mitigate the health and nutrition problems of the urban poor. Improving nutritional status of urban poor requires a more direct, more focused, and more integrated strategy.

![Figure 14: Malnourished Migrant Worker and his son](image)

2.4 Case Studies
In India and other parts of the world, non-profit organizations are working towards the development of migrant worker communities. The following are some of the major organizations that carry out various campaigns to educate workers about their rights, aid them to solve employment and housing problems and help meet other social and economic challenges.

1. Justicia for Migrant Workers (J4MW) is a volunteer run political non-profit collective comprised of activists based in Toronto, Ontario, and now in Vancouver, British Columbia, Canada. It strives to promote the rights of migrant farmworkers (participating in the Canadian Seasonal Agricultural Workers Program and the Low Skilled Workers Program) and farmworkers without status.8

2. The Campaign for Migrant Worker Justice is another non-profit tax-exempt organization whose aim is to support the human rights and self-determination for those involved in the

---

farm labour and immigrant rights movements. They are based in Midwest, the South, and Mexico. [www.cmwj.org]

3. The Government of India’s Inter-State Migrant Workmen (Regulation of Employment and Conditions of Service) Act of 1979 was passed in order to address the unjust working conditions of migrant workers, including the necessity of gaining employment through middlemen contractors or agents who promise a monthly settlement of wages but do not pay when the times comes. The act lists the responsibilities of employers and contractors and the rights of workers to wages that are equal to those of the local employees, the right to return home periodically without losing wages, and the right to medical care and housing at the employment site.

4. NGOs such as PRAYAS Centre for Labor Research and Action have adopted the rights-based strategy of unionizing migrant workers. They work with vulnerable occupation streams such as construction, brick-making, and cotton ginning. PRAYAS was able to successfully reduce the number of child workers who were being trafficked to cotton seed farms from Rajasthan to Gujarat. The unions also enjoyed considerable success in negotiating wage increases for workers with employers and middlemen.

2.5 Types of Internal Migration in India

Labor migration flow include permanent, semi-permanent and seasonal migrants. But generally the ratio of seasonal migrants in much more less then permanent and semi-permanent migrants.9

Semi-permanent Migrants: - These are the people who do job in a particular area but do not have resources to make a permanent shift in the area. They may do jobs for considerable time like a few years but they likely to have homes and families in their original district.

Seasonal Migrants: - These are the people who move from one place to another in search of job. They spend 6 months at one place and move to another as soon as their impermanent work is done. Seasonal migrants can be found at the peak time of harvest in agricultural sector. When the harvest season arrives, they move to places like Himachal Pradesh, Punjab etc. and work there for a limited time period.

Many of the women who migrates for marriage also participate in the labor market.

The factors for migration can be mainly categorized into 2 types:-

1. **Pull Factor:** - These are basically the reasons which attracts the migration like employment opportunity, housing facilities etc. But most if the time the latter one is not provided with.

2. **Push Factor:** - These are the factors which forces people to migrate such as poverty, natural calamities, indebtedness, out-casted etc.

3. **Other factors:** - Physical factors like earthquake, drought, rain cycles etc. Are responsible for migration. Sometimes social factors let us say if a women is deserted , she would go somewhere else to find livelihood , some economic factors like industrialization, mechanization of agriculture compel people to migrate somewhere new place.

2.6 Summary

From the literature review we have found out that the amount of Interstate Human Migration in India is high and the economic-social conditions for these migrant workers are hazardous. A large number of organizations are carrying out campaigns to improve the condition of these workers all
over the World and thus it motivates us to carry out similar work in India, particularly in H.P.

**Chapter 3. Methodology**

The goals of this project are to analyze the present health, hygiene and nutritional status of the migrant workers in Himachal Pradesh and provide them with feasible solutions to improve their conditions.

### 3.1 Objectives of the Project

1. Find the causes and magnitude of migration in India in general and Himachal Pradesh in particular.
2. Measure the present health, hygiene and nutritional status of workers in locally accessible migrant laborer communities (Men, Women and Children separately).
3. From the collected data list the major issues that cause a poor health, hygiene and nutritional level among these workers and find out the feasible solutions.
4. Create awareness among these communities about the possible solutions to improve their conditions. We will aim to influence their daily life practices that will in turn lead to improvement in their conditions.

This section will outline and justify the different methods that we will use to accomplish our objectives.

### 3.2 Tools and Techniques to accomplish the Objectives

1. **Survey, Interviews and Focus Groups**: In order to develop an understanding of the conditions of workers we will conduct surveys, interviews and group discussions. Through this we hope to get a deeper idea on why these people migrate, what problems they face when it comes to availing basic amenities like clean water, proper food, living conditions, medical facilities etc. when they move from one place to another. Specially designed questionnaires will help to determine their present health status i.e. we will get to know about the diseases they have or had, family medical history etc. Proper interpretation of the data we get through surveys, interviews and focus groups will help us determine their health, nutrition and hygienic status.

2. **General Medical Assessment**: General Medical Assessment will be done to find out the nutritional status. This will involve measuring height and weight in particular to calculate Body Mass Index which is an efficient nutritional level indicator. Apart from this help from local doctors or NGOs can be taken to get a more detailed information on their health and nutrition.

3. **Photographs and Videos**: In order to collect relevant data on hygienic conditions of the migrant laborers we will collect on site photographs of their present living conditions. Recording videos will also be a good and important indicator of the daily problems they face.

### 3.3 Intervention

Given the figures, there is a need to focus on the conditions of these vulnerable workers. Not
many studies have been carried out that focus on the health, hygiene and nutritional status of workers in Himachal Pradesh. To carry out this study efficiently, we need some indicators for determining the health, hygiene and nutritional status. Indicators are quantifiable statistical markers that are used as proxies or substitutes for measuring conditions that are so complex that there is no direct measurement. They are used to describe the circumstances of societies, to monitor how well development outcomes are being achieved, and to set goals that reflect societal values. A good indicator for this study should have the following characteristics:

1. Relevant to the development objectives of the project
2. Reliably measured through surveys or other empirical instruments
3. Available at minimal cost and comparable across different regions

Body Mass Index (BMI) is the best-suited indicator for our purpose. The body mass index (BMI), or Quetelet index, is a measure for human body shape based on an individual's mass and height. There exist some standards of average BMI for an adult, children, males and females. The case study for this project includes immigrant labourers in India, their health and hygiene.

Figure 6 shows a graph of BMI as a function of weight and height.

Figure 15 A graph of body mass index as a function of body mass and body height is shown above. The dashed lines represent subdivisions within a major class. For instance, the "Underweight" classification is further divided into "severe", "moderate", and "nil"
Chapter 4. Results and Discussion

Stakeholders for the project

Our stakeholders involve local and migrant labourers. The local labourers were basically construction workers working at the construction site of Kamand. These construction workers also included migrant workers from Jharkhand and Chattisgarh.

Secondly, we interviewed our mess and canteen workers who have come from the states of Bihar and Chattisgarh. The people from Tibet were also interviewed who have migrated here for shelter and now are mainly involved in shop keeping and selling of clothes.

A huge group of migrant labourers from Rajasthan, who now live in slums, were also interviewed.

Results

To measure the health, hygiene and nutritional status of migrant laborers and to understand their conditions better we conducted surveys and interviewed many men and women. The following are the results as per our objectives.

***The questionnaire is also attached with the report.***

1. The causes and magnitude of migration in India in general and Himachal Pradesh in particular:

   Figure 6 shows the major reasons why the people from other states migrated to Himachal. 75% migrated because their native had no/less employment opportunities. These people are from neighboring countries like Tibet and states like Uttarakhand. 15% migrated because their villages were struck with a natural disaster in 1970’s and their families are migrating from one place to another since then. A group of people from Rajasthan had come to Himachal to witness ‘Cold’ and they stayed back because they liked it. Many families have been staying in Mandi for a long time and had no idea why their ancestors had shifted.
2. Measure the present health, hygiene and nutritional status of workers in locally accessible migrant laborer communities (Men, Women and Children separately):

BMI, an indicator for nutritional status was calculated for Men, Women and Children. Following Charts show the collected data. (BMI = weight (in kg)/Height*Height (in meters)). The horizontal axis give the serial number of a person and the vertical axis give corresponding height, weight, age and BMI.

Children:
**Female:**

Chart 2: BMI calculation of female workers in Kamand

**Male:**

Chart 3: BMI calculation of male workers in Kamand
The second survey was done in Mandi in a locality of immigrants. Like in the first survey, this time too BMI was calculated but other than this, each group (male, female, children) were asked some questions (as mentioned in the Chap 3) so as to get idea about their health, hygiene and nutrition.

Following charts show the statistics collected in the survey:

**Children:**

![Chart4](image)

**Female:**

![Chart5](image)
Male:

Chart 6: BMI calculation of male workers in Mandi

Summary

Children:

<table>
<thead>
<tr>
<th></th>
<th>Kamand (Immigrants)</th>
<th>Mandi (Immigrants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number</td>
<td>5</td>
<td>11</td>
</tr>
<tr>
<td>Under-weight</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Over-weight</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

% Underweight: 75% children belonging to migrant communities are underweight.

Female:

<table>
<thead>
<tr>
<th></th>
<th>Kamand (Locals)</th>
<th>Mandi (Immigrants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Under-weight</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Over-weight</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

% Underweight: 18% women who belong to Mandi are underweight. On the other hand
only 9% migrant women are underweight.

**Male:-**

<table>
<thead>
<tr>
<th></th>
<th>Kamand (Locals)</th>
<th>Mandi (Immigrants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>Under-weight</td>
<td>4</td>
<td>-</td>
</tr>
<tr>
<td>Over-weight</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

%Underweight: 26% Men who belong to Mandi are underweight and none of the migrant men are underweight.

The data has been elaborated as pie charts below:
We observed that though their parents were not undernourished but 75% children were undernourished.

Other than collecting data for BMI we had also asked questions about their diet and what type of food they eat generally. Figure 7 shows the observations. The horizontal axis shows the type of food and vertical axis shows the corresponding percentage of people who take that food in their diet.
Figure 17: Components of daily diet and amount of intake

The undernourishment of the children was seen due to lack of protein and milk products in their diet. Children at their growing age require proteins the most which was lacking in their diet because of which they were undernourished.

Health conditions: To know about the health conditions of migrant workers general questions were asked. Following are the results.

Alcohol/Tobacco Consumption: 100% Men consume alcohol and tobacco and smoke cigarettes. Tobacco is consumed on a daily basis whereas alcohol consumption is less frequent. The average expenditure on all this is around 1500-1700 Rupees per month where 6000-8000 Rupees is the average per month earning. Due to excessive consumption of these things the women face problem of domestic violence and many of them don’t feel safe at times.

General Diseases: The following are the diseases these people contract.
Medical Check-Ups and Camps: The people visit a local doctor in case of some emergency or to get medicines. However, none of them are aware of any medical camps that take place for poor people like them. Also, the doctor is not always available and as helpful. Many of the elder members of this community are facing severe heart diseases and might die soon due to lack of medical help and poverty.

**Hygiene:** The following pictures show the living conditions of migrant worker families. The pictures clearly depict that these people live in extremely small and congested houses that accommodate more than they should. Apart from the unventilated houses, they do not have proper toilets. They bathe, excrete, and wash clothes in the same area i.e., near the river. The frequency of bathing, washing clothes, etc., on an average was around 4 times a week for all (Men, Women, and Children).

A few good points about the hygienic conditions of these workers are that they drink water from a separate storage made especially for them by the government and also that they maintain cleanliness in the houses and their locality. Also, all the small children have taken vaccines for several diseases.
Figure 21: The small, unkempt, dingy house of one of the workers
Figure 22 Measurement of height and weight for calculation of BMI
Discussions

1. Nutrition: From the above results it is obvious that almost all the children are malnourished while the adults don’t face any such problem. This might be because these people are poor and cannot afford basic and necessary food like milk, fruits etc. which are essential for growth and development of a child.

2. Health: Since these people are not aware of the medical camps that government or NGO’s organize in nearby places they do not get any expert help. This sometimes might lead to severe problems and people may die sooner than they would have. This is the case of an old woman who is facing a heart problem. Her kids do not have the money to buy medicine or go to a good doctor and she is going to die anytime soon. Most of the young children constantly face the problem of cough, throat infection and some respiratory diseases. At such a small age children have to bear with extreme head-aches. They hardly take any medicine and thus if this is not taken care of now these children can also face dangerous consequences.
3. Hygiene: The major cause of diseases that the people face are the poor hygienic conditions that they have to live in. Bathing, excreting and washing clothes in the same place obviously is the cause of almost all the problems. A temporary and effective solution to this problem is very important.

Elaborate Discussions of Consequences:

HEALTH CONDITIONS

Infectious disease
Living conditions are overcrowded, with poor ventilation, lack of safe drinking water, and rubbish heaps and stagnant water allowing rodents and insects to breed. These migrant workers are consequently at significantly increased risk of contracting a variety of viral, bacterial, fungal and parasitic infections.

Dermatitis
Skin disorders can be caused by exposure to pesticides, fertilizers, latex, chemicals, and allergenic plants or crops.

Respiratory conditions
These can be caused by exposure to dusts, gases, herbicides, fertilizers, solvents, fuels and fumes.

Cancer
Migrant workers are exposed to a wide variety of carcinogens, including pesticides, solvents, oils, fumes, and ultraviolet radiation from chronic sun exposure. Children exposed to pesticides seem to show higher relative risks than adults of developing many of these Cancers.

Abuse and mental ill-health
In addition to the insecure and low-paid nature of the work, seasonal migrant workers are often socially and geographically isolated. Studies in the India show that children of migrant workers are six times more likely than average to be mistreated. Frequent moves, interrupted schooling and demeaning racial epithets are features of the lives of many migrant workers’ children, which can impact on their mental health.

LIVING CONDITIONS OF CHILDREN (Housing)

Insecure housing can harm children

- Insecure tenure can harm children’s sense of safety and belonging.
- Evictions can cause traumatic experiences for children and harm their emotional stability and social skills.
- Homelessness poses a threat to children’s health due to lack of shelter and facilities.

A crowded living environment can harm children’s development and wellbeing

- Lack of space and opportunity to play in the house hampers the development of motor- and social skills.
- Noise negatively influences children’s stress level and physical health, such as hormonal functioning.
• Chronic crowding leads to behavioral difficulties in school and poor academic achievement.

**Poor Quality of housing poses a threat to children’s health.**
• Poor construction quality can lead to inadequate protection from (extreme) weather conditions.
• Poor construction quality can cause injuries or death, especially in the event of natural disasters.
• Poor construction quality can lead to inadequate protection from insects and other disease carriers.
• Poor design can lead to lack of sufficient daylight.

**PUBLIC SPACE**

**Lack of safe spaces to play can harm children**
• Lack of safe public spaces to play can harm learning ability, especially between the ages of zero and four.
• Lack of safe spaces for play and exploration can harm children’s physical development and social skills.

**Poor quality of public space can harm children’s wellbeing and social skills**
• Lack of spaces for interaction, like youth clubs and community centers, can harm children’s social skills.
• Unsafe public spaces prohibit children from participating in communal life, play and recreation activities.
• Crowded and chaotic public space can harm children’s emotional well being due to increased stress levels.
• Lack of spaces to play that provide challenges (but no great risk) can harm children’s development.

**SANITATION**

**Lack of adequate sanitation systems poses a threat to children’s health and wellbeing**
• Poor sanitary conditions can lead to malnutrition and disease, like diarrhea.
• Poor sanitary conditions can lead to rodents, insects and other carriers of disease.
• Lack of adequate drainage systems can spread disease and pose a risk of drowning.
• Lack of proper sanitation solutions like private toilets can lead to increased stress levels, fear and shame.

**TRANSPORT**

**Poor infrastructure can pose a threat to children’s safety and social skills**
• Dangerous traffic can lead to physical injuries, such as when playing.
  Lack of safe modes of transportation can prevent children from exploring and participating in community life.

**WATER**

**Lack of clean water poses a threat to children’s health**
• Lack of access to clean drinking water and sanitation causes a range of diseases, like diarrhea.
• Toxins and chemical pollutants in water can cause a range of health problems.
• Toxins and chemical pollutants can harm pre-natal development of the body and brain.
• Unhygienic storage of water increases the risk of contamination with pollutants.

Difficult access to clean water can harm children’s learning abilities and social skills
• Time spent by children collecting clean water is lost for other activities, such as school or playing.

POWER
Lack of power sources poses a threat to children’s safety and development
• Lack of light can harm children’s development by preventing them from playing and learning.
• Lack of light poses a threat to children’s safety when moving and playing around the house.
• Lack of adequate power for cooking and preserving food can lead to malnutrition.
• Lack of power can cause extreme and harmful physical discomfort (extreme heat or cold).

Unsafe power – infrastructure poses a threat to children’s safety and health
• Power lines and power stations that are accessible to children can lead to physical injuries.
• Radiation can harm the pre-natal body and brain.

AIR
Poor indoor air quality poses a threat to children’s health
• Poor indoor air quality may contribute to respiratory diseases.
• Damp air caused by lack of ventilation leads to moulds that can harm children’s brain development.
• Tobacco smoke damages children’s respiratory system, leading to illnesses like asthma and pneumonia.
• Poor indoor air quality has been associated with pre-term delivery.
• Air pollution poses a threat to children’s health
  • Outdoor air pollution, for example by traffic or industry, contributes to respiratory diseases.
  • Air pollution has been associated with pre-term delivery

We need to work on these principles to better the conditions of the migrant labourers:
• Promote positive political discourse and avoid a prejudiced, negative portrayal of internal migrants
• Build awareness for a better understanding of internal migrants’ positive contribution to society
• Adopt a human rights-based approach for internal migrant inclusion in society
• Develop gender-sensitive and age-sensitive policies and practices for internal migrants
• Create portability of social protection entitlements for internal migrants
• Upscale successful innovative practices for a better inclusion of internal migrants
• Revise and strengthen data collection techniques for the Census to ill knowledge gaps, especially those related to circular and seasonal migration and women’s migration
• Mainstream internal migration into national development policy, and regional and urban planning
• Ensure policy coherence on internal migration and its cross-cutting impacts
• Ensure democratic participation of internal migrants in society

Chapter 5. Recommendations and Conclusion

After analyzing the data and seeing the present living conditions of migrant laborers in Himachal Pradesh, it is very important to take some steps for their welfare. Some efforts from community's side can make significant change. The main problem in these migrants is ignorance. If somehow they can be made aware of some particular things like how important it is to maintain good health and hygiene, importance of education, etc. Might create positive effects. We have already discussed before some major problems these people face and now we propose simple and affordable solutions that they can implement easily in their daily life.

Some of the feasible ways to make things better on their end are:
• Message Broadcasting
• Pedaled Washing Machine
• Kitchen Gardens
• Nutrition Capsules
• Self Help Groups
• Seminars for men and women
• Registration and Identity

Message Broadcasting:
During survey, it was found that most of the household own at least one cellphone (mostly men) and they can read messages with no difficult which tells that they have received primary education, in the least. So taking this into account, a centralised system for information distribution can be developed. They can be informed about:
- Various employment schemes.
- Hospital/medical camps.
- Workshops/seminars being held by various NGO's.

This whole scheme works more or less like a call centre but instead of giving controls to a private organisation, government itself should undertake this project of establishing this information.
centre.
Just like all these publicity broadcast messages from various companies, these people can be
informed about important matters.

Technicality:-

We need to manage a database consisting information about these migrants and most importantly
their phone numbers. Another database manages all the schemes, messages and important
announcement to be sent to the migrant laborers.
We have implemented a similar system in IIT Mandi which uses an open source platform know as
GoAutoDial and Djphone which allows to make calls or push messages to more than one clients
using remote machines.

This setup is really affordable as it needs two computer and a phone line connection and an
operator who manages the database and regularly updates the clients by calls and messages.
Fig: - Webpage of the centralized broadcasting centre
Pedaled Washing Machine:-

These migrants cannot afford an electronic washing machine and even if they buy it collectively, they do not have regular electricity supply. Hence, we came up with an idea of a mechanical/manual washing machine which does not consume electricity and is affordable, the pedaled washing machine. It has already been developed by students of IIT Mandi. It consists of a large drum which provides the washing spaces, a chain, motor and pedal assembly which works in unison to create the affect which are very much like an electronic washing machine.

Basically it works on the principle of conversion of energy from one form to another. When the machine is pedaled, it produces mechanical energy which is then converted into electrical energy and the motor rotates the blades in drum in both clockwise and anticlockwise direction. Apart from this, it can be a source of physical exercise for adults and children can have fun doing pedaling which can reduce the workload on women.

And the best thing about this machine is that it uses recycled components and can be made easily by the people themselves once they are taught how to.

The following picture shows the machine developed at IIT Mandi:-

![Pedaled Washing Machine developed at IIT Mandi](image)
Kitchen Gardens:

As described earlier some (not all but some) do not have their identity proofs and ration card with themselves. And without ration cards, they are deprived to the food grains distributed by government at cheap rates under the scheme of FCI. So only way to get vegetables and grains is to go to local vendor who sell these commodities at high prices. Sometimes to save money, these migrant laborers buy the poor or rotten vegetables and food grains which have adverse effects on their health and hygiene and their body is deprived of basic nutrition.

We propose the concept of Kitchen Gardens. Vegetables and fruits can be grown in the backyards or some empty places. As of Himachal most of these migrants laborer stay near the bank of river Uhl, which removes the possibility of not getting enough water for the plants. It does not require any kind of big monetary investment. They only need to buy seeds and take good care of the garden.

This can save a considerable amount of money and helps in growing good quality of vegetables which ultimately improves the level of nutrition and health conditions.

Figure 25: Promotion of Kitchen Gardens among migrant laborers
Nutrition Capsules:-

Under various schemes government hospitals provides various capsules for iron, vitamin etc. These people won't come and take those free tablets on their own. So an organization can be formed which regularly distributes these capsules. Or whenever the hospital provides these free capsules, they can be informed by messages or calls about the same. But these capsules supply only particular nutrients like vitamin or iron.

Various IIT's are working together on capsules which can fulfill requirement of nutrients of one complete day. The nutrition supply of one capsule is equivalent to the nutrition provided by 3 meals in a day.

Scientific evidence shows that some dietary supplements are beneficial for overall health and for managing some health conditions. For example, calcium and vitamin D are important for keeping bones strong and reducing bone loss; folic acid decreases the risk of certain birth defects.

Figure 26: Vaccines being given to children of the labourers

Self Help Groups:-

As India is developing at a fast rate, people are being aware about the self help groups. These groups basically comprises of the unemployed people who come together with all the resources they own and start some small scale work on their own. And with time they make quit a lot profits.

Most of these migrants people are employed already but still they can form self help groups so that they can get strong financially. An organized plan should be constructed to save monetary resources. And as they don't have identification proofs, it is not possible for them to open bank accounts in the current place of living. Once these groups have fair amount of money with them, they can act as personal banks to other people. They can start some small scale industries and become owner of their own.

A self-help group may be registered or unregistered. It typically comprises a group of micro entrepreneurs having homogeneous social and economic backgrounds, all voluntarily coming together to save regular small sums of money, mutually agreeing to contribute to a common fund and to meet their emergency needs on the basis of mutual help. They pool their resources to become financially stable, taking loans from the money collected by that group and by making everybody in that group self-employed.
Regular Seminars for Men and Women:
Various seminars should be organised by government or NGO’s to spread awareness about serious issues like health, education etc. They should be made aware of the importance of education and should be encouraged to send their children to schools. They cannot afford private institutions but most of them also don't know that the government has established special schools for underprivileged families who cannot afford costly education.

Various workshops like handicrafts, pottery etc can be organised so that they can have a side business and source of income apart from the regular employment.
**Registration and Identity**
In the absence of proofs of identity and residence, internal migrants are unable to claim social protection entitlements and remain excluded from government sponsored schemes and programmers. The people whom we interviewed dint have voter ID cards as well. Because of all this they were not receiving the supply of electricity also past many years. Children face disruption of regular schooling, adversely affecting their human capital formation and contributing to the inter-generational transmission of poverty. Further, migrants are negatively portrayed as a “burden” to society, discouraged from settling down and excluded from urban planning initiatives. Most internal migrants are denied basic rights, yet internal migration is given very low priority by the government in policy and practice, partly due to a serious knowledge gap on its extent, nature and magnitude.

![Adhaar Card issued to people](image)

**Figure 29: Adhaar Card issued to people**

**Conclusions**
With the increasing inflow of migrant laborers in Himachal Pradesh for road developments, construction work, shop keeping, tourism and domestic help etc., their living conditions, health, hygiene and nutritional status is decreasing. There is a wide scope in the study of their conditions and improvement in the same.

In our literature review, we found that in India there is a predominant trend of migration of laborers, especially for construction activities. There have been studies regarding the poor health and hygienic status of the migrant workers but rarely any study has focused upon Himachal Pradesh in particular. The literature review has provided a strong background to proceed with the study of their health and nutritional status to propose solutions to the migrant workers to improve their living conditions.

The strategies that we have discussed in the methodology section aided us in uncovering the actual problems faced by the laborers in Himachal Pradesh. Through the appropriate data and evidence we were able to measure and investigate the real health, hygiene and nutritional status and provide them feasible solutions.
Bibliography

- Migration and Workforce Participation in the Himalayan States [R.Lusome and R.B.Bhagat].
- Amount of Migration [Office of the Registrar general and census commissioner, India, 2011]
- About Women Labour [Ministry of labour and employment, India, 2001]
- Migrant Workers and Health - The Role of Business [BSR, 16th January, 2012]
- Child Malnutrition as a Poverty Indicator: An Evaluation in the Context of Different Development Interventions in Indonesia. [Sununtar Setboonsarng, January 2005]
- Migrant Workers- Present Position and Future Strategy towards Social Security [B.K. Sahu]
- Living on the road: Migrant Road- builders in the Himalayas, IISER Mohali [Dr. Anu Sabhlok, 2013]
- Temporary and Seasonal Migration: Regional Patterns, Characteristics and Associated Factors [Kunal Keshri, 2012].