



Living Wage Report

Bhadohi, Uttar Pradesh, India

Rural

With Context Provided in the Carpet Weaving Industry

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Acknowledgements

This report on *Living Wages for Rural Bahdohi, Uttar Pradesh, India: with focus on the Carpet Weaving Industry* has been a collaborative project in every sense of the term. It was created as a result of the innovative methodology developed by Richard Anker and Martha Anker, who trained a number of researchers from across the world including this report's first author. The Ankers have been available for consultation multiple times through Skype conversation.

GoodWeave International, a member of The Global Living Wage Coalition; other members of which include FairTrade International, Forest Stewardship Council (FSC), Sustainable Agriculture Network/Rainforest Alliance (SAN/RA), Social Accountability International (SAI), UTZ, and the ISEAL Alliance sponsored this study. I express my gratitude to several members of the GoodWeave team, especially: Biko Nagara, USA, Manoj Bhatt, New Delhi, Shri Mathew John and Jawed Ahmed, Varanasi.

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Although I accepted the invitation to undertake this study on my own, I soon realised that the complexity of the study was beyond the exclusive domain of my expertise. I wish to place on record the valuable contribution made by Dr Nidhi Kaicker to this report. Nidhi has contributed at every stage of this report: beginning with the preparation of the secondary data for the Istanbul workshop, preparation of tailor-made survey forms for data collection, analysis of the data, preparation of the model diet and the writing of the final report. As I have no other adequate way to thank her, she has been included as the co-author of this report.

Nidhi and I also wish to express our sincere appreciation to Dr Kanika Mahajan for helping us with data on labour participation and unemployment rates in rural Uttar Pradesh (UP).

Kuriakose Mamkoottam, Delhi

Foreword

This report is the fourth in a series of studies produced by the Global Living Wage Coalition, a working group of six organizations, which are members and affiliates of the ISEAL Alliance. These leaders in standards-setting and certification have agreed to adopt common definitions, methods and benchmarks to assess a living wage, and strive to make these applicable across sectors within geographic regions. In each of our programs we aim to help companies ensure just livelihoods for millions of workers who are now largely unprotected. GoodWeave's mission-level aim to stop child labor is served by this effort, as only in meeting the real cost of living for workers can parents choose to enroll their children in school rather than the workforce.

This marks the first study in carpets and in rural India. The Coalition identified India as a focus country, as its labor force is second in number only to China's, yet it is riddled with workers' rights concerns. Walk Free's Slavery Index estimates 18 million people are enslaved in India, more than any other country, and the ILO estimates 5.7 million of the world's child laborers are Indian. Carpet and textile production are among India's leading employers. According to the Indian government's census, Uttar Pradesh, a manufacturing hub for this sector, has the country's highest number of child laborers. All of this together justified a closer look at whether a living wage gap might be considered a root cause.

Kuriakose Mamkoottam and Nidhi Kaicker skillfully applied the Anker Methodology to produce a basic living wage calculation for rural Uttar Pradesh. This practical approach, explained in section 5 of this report, combines primary research and secondary data while considering the actual living conditions of carpet weavers in the region as critical context. This benchmark is well above most real worker earnings in the region. Other studies, sponsored the Global Living Wage Coalition, vary considerably in their results, but all corroborate this key finding: workers in countries around the world face a profound wage gap that prevents them from meeting their basic needs and rights.

GoodWeave introduced the researchers to carpet worker communities to interview them and carry out the benchmark study; most were employed by sub-contractors or home-based operations, working informally. In South Asia, 82% of non-agricultural employment is informal. These workers fall outside the purview of most legal protections and assistance programs, and data on this population is inadequate. In August 2016, the Indian government announced a new minimum wage hike in the Delhi region and similar increases in other states may soon follow. Minimum wage laws, however, are rarely enforced in the informal work force. This is acutely relevant to GoodWeave's mission, as child, forced and bonded labor are most often connected to this portion of the supply chain.

There is another component to this work that is well served by the Global Living Wage Coalition. Because we learn more about how and where workers live, what they spend on food, shelter, education and healthcare, we can track whether the resources intended for their benefit actually reach them and serve to advance their livelihoods. We find that families cannot always afford both food and the fuel with which to cook it, and that supporting children to attend school is completely out of their reach. It is daunting to learn this of people who often work 60 hours a week; such is the reality of the global wage crisis.

With internationally recognized standards that include credible benchmarks, Coalition members give companies a chance to employ those most in need of decent work, and to have a real impact on poverty and its attendant issues, from child protection to a range of human rights. This study is an action item for that work. The next step is to bring our findings into practice by training more on-the-ground programs to apply the benchmarks produced using the Anker Methodology. We also must ensure that wage

Living Wage Report for Rural Bhadohi, Uttar Pradesh, India - with focus on carpet weaving industry

standards apply all the way to the bottom of supply chains, and build acceptance of the living wage concept among the full array of players including business, workers and government. This process is essential to establish new norms that protect all workers: a victory for human rights and the global economy.

Nina Smith

CEO, GoodWeave International

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Living Wage Report

Bhadohi, Uttar Pradesh India

Rural

Context Provided in the Carpet Weaving Sector

Introduction

1. BACKGROUND

This report estimates a living wage for workers in rural areas of Eastern Uttar Pradesh, India, for November-December 2015. The report is prepared on the basis of secondary data, as well as primary data, collected through field investigation in the rural areas of Bhadohi district, near Varanasi, Uttar Pradesh, with a focus on areas where workers, engaged in the carpet weaving industry, live. The draft report was further discussed with stakeholders including NGOs, academicians, local workers (weavers), subcontractors and factory owners, after which appropriate corrections and modifications were incorporated.

The study is based upon a new methodology developed by Anker and Anker (2016) that builds and improves on their earlier work on living wages published by the ILO (see Anker, 2006a, 2006b, 2011). The Anker methodology has gained widespread acceptance among diverse stakeholders globally and has been used to estimate living wages in ten countries for a multi-national corporation, as well as in rural, urban, and non-metropolitan urban areas in 25 locations spread across 17 countries. Currently this is the 8th¹ of those studies to be publicly released, and validated with stakeholders either at an in-person event or through collection and incorporation of comments (as was done for this report). Additional reports are currently in the validation process or are under technical review and verification, and are being scheduled for release through early 2017.

The Global Living Wage Coalition brings together Fairtrade International, Forest Stewardship Council (FSC), GoodWeave International, Rainforest Alliance (RA), Social Accountability International (SAI), Sustainable Agriculture Network (SAN), and UTZ, in partnership with the ISEAL Alliance and Richard Anker and Martha Anker, with the shared mission to see continuous improvements in workers' wages, in the farms, factories and supply chains participating in their respective certification systems and beyond, and with the long term goal for workers to be paid a living wage. Each living Wage Benchmark commissioned by the Coalition is made public to further this aim and to increase the opportunity for collaboration toward payment of a Living Wage.

The work of The Global Living Wage Coalition, including the commissioning of this benchmark, is further supported by the Ministry of Foreign Affairs of the Netherlands, Directorate-General for International Cooperation (DGIS). The management of this work and efforts to ensure that researchers heard directly

¹ The 6th study with results publicly released was Ethiopia. The full report is still being finalized for release in this case, but the resulting living wage estimate is available publicly along with basic information on the inputs used to calculate.

from producers and stakeholders key to the issues of workers in Bhadoi was facilitated by GoodWeave International.

2. LIVING WAGE ESTIMATE

Our estimate of a living wage for rural Uttar Pradesh for November-December 2015 is Rs.8,929 (\$133) per month.² Since the workers in our study receive wages on a piece rate system and they do not receive any other cash allowances, bonuses, or in-kind benefits and are also not required to make any statutory payments, the living wage (take home pay) required is the same as the living wage (gross pay) - calculated to be Rs.8,929 (\$133) per month.

This report explains in detail how the living wage has been estimated for workers in rural areas of Eastern UP where there is a concentration of carpet weavers.

3. CONTEXT

3.1 Rural India

A large part (three-quarters) of India's population live in rural areas and nearly 80 percent of the population of UP resides in rural areas. Land is the single most important resource for livelihood. However, per capita availability of land has been declining; less than one-third of the rural population depends on cultivation of their own land for the 'main' source of income. More than half of the rural population derive sustenance from manual casual labour, many working as landless labour. The status of human development in UP continues to be quite low, lagging behind most other states of the country in terms of major indicators of social development. Child labour has afflicted many sectors, including carpet weaving. Steps are being initiated by the state and non-governmental agencies to eliminate child labour. It is hoped that establishing a living wage may help to end child labour in these sectors of the informal economy.

Economically UP is among the most backward states of India, with a high percentage of marginal and small land holdings, high population pressure, small manufacturing sector, structural deficiencies in infrastructure, glaring regional imbalances and sluggish economic growth.

3.2 Carpet weaving, economy and employment

Carpet making, among other manufacturing activities including cement, vegetable oils, jute, brassware, sugar production, handloom, cotton & woollen textiles, leather & footwear, distilleries & breweries, glassware & bangles, is an important source of employment and income for Uttar Pradesh. Shahjahanpur, Mirzapur, Bhadohi, Khamaria and Agra are the main hubs for the carpet industry in Uttar Pradesh. The carpet industry, in UP, predominantly makes use of jute and cotton fibres to create medium quality carpets - as we gathered from local informants, including subcontractors and weavers. Based on our discussions with the local informants an average of 60 knots per square inch is applied during the knotting process. The weavers of the Mirzapur-Bhadohi region in UP are renowned for their versatility in weaving carpets of many designs.

²The conversion rate used is INR 67 = US\$ 1.

Carpet weaving is an old Indian tradition, going back to the 16th century. Today, India is the world's largest producer, said to account for more than 60 percent of the global carpet production. India is the world leader in carpet exports, with 36 percent of the global market share (CEPC 2015). Indian carpets are known worldwide for their design, fascinating colours and quality. The carpet industry is spread across the states of Rajasthan, Jammu & Kashmir, Punjab, Uttar Pradesh, Andhra Pradesh, and Himachal Pradesh. Hand-knotted and tufted woollen carpets, chain stitch rugs, pure silk carpets, staple/synthetic carpets and handmade woollen *durees* are some of the varieties of carpet for which there is demand in Europe and America.

This report has been prepared on the basis of data collected through field study undertaken in the rural areas surrounding the district town of Bhadohi, which is known as the carpet city. It is situated in the eastern part of Uttar Pradesh, about 60 km to the west of Varanasi city, with a population of around 1,554,000 people. Bhadohi is one of the main carpet centres of the Mirzapur-Bhadohi belt, and the carpet industry is a major contributor to the economic development of the region.

A major part of carpet manufacturing is weaving. The Mirzapur-Bhadohi region is the largest handmade-carpet weaving cluster, engaging around 3.2 million people in the industry. Bhadohi employs 2.2 million rural artisans, a figure which includes a large number of migrant workers from other states.³ Some weavers, though it is difficult to estimate their numbers or proportion, have their own looms. The majority do not own their looms so weave on looms owned by master-weavers or commission agents. While there are a few factories employing 100-300 weavers, the majority of the carpet weaving in Bhadohi area is done by workers engaged by contractors employing small number of weavers (less than 10). Usually, commission agents or other bigger manufacturers advance some money to the weavers or contractors to install looms. The contractors provide the material (yarn, threads etc.) and the specific design based on which the weavers produce the carpet. Such weavers are contractually bound to weave the carpet for those who have given them the money in advance. This contract is only socially sanctioned as there is no formal legal agreement. Bhadohi-based organisations account for a major share in the total carpet exports of India.

4. CONCEPT AND DEFINITION OF A LIVING WAGE

The concept of a living wage has been developed to ensure that workers and their families do not live in poverty, but are able to lead a decent life. Wages should be sufficient to support workers and their families to be able to afford a basic lifestyle, considered decent by society at its current level of development. Workers should receive a living wage in normal working hours without having to work overtime.

The Global Living Wage Coalition Members have defined a living wage as:

“Remuneration received for a standard work week by a worker in a particular [time and] place sufficient to afford a decent standard of living for the worker and her or his family. Elements of a decent standard of living include food, water, housing, education, healthcare, transport, clothing and other essential needs including provision for unexpected events.”⁴

³<http://dcmsme.gov.in/dips/Distt.%20Industrial%20Profile%20of%20Bhadohi.pdf>

⁴ http://www.isealalliance.org/sites/default/files/GLWC_who_we_are.pdf

The Global Living Wage Coalition consists of Fairtrade International, Forest Stewardship Council, Goodweave, Rainforest Alliance, Social Accountability International (SAI), Sustainable Agriculture Network (SAN), and UTZ in partnership with the ISEAL Alliance and global living wage experts Richard Anker and Martha Anker.

5. HOW OUR LIVING WAGE IS ESTIMATED

5.1 The data

This report is based on analysis of secondary data collected from different sources, including the Census (2011), National Sample Survey (NSSO, 2012a, 2012b), USDA-NAL (2014) as well as primary data collected through field investigation. The field investigation was launched after undertaking a scoping visit to Bhadohi district in UP. The scoping visit was undertaken to gain a preliminary understanding of the carpet weaving industry, how it operates and to identify the main location of the weaving activity. On the basis of the preliminary scoping visit, the rural part of Bhadohi was identified as suitable for undertaking a detailed field investigation, as it houses a considerable number of weaving operations in UP. Accordingly, the instruments for collecting primary data from the field were suitably modified for data collection. The preparation of the model diet and estimation of its cost, the cost of housing, the cost of non-food and non-housing (NFNH) items including health, children's education and other costs for a decent living has been prepared on the basis of data collected through field investigation as well as from secondary sources.

Primary data was collected through a rigorous process of investigation, which lasted two weeks during the first half of December 2015, by visiting local markets, neighbourhood shops, weaving sites, workers' homes, schools and local dispensaries in as many as 15 different locations within the area of rural Bhadohi. The weaving sites varied from large factories, which employ large numbers (40-100+ weavers) to small sites with 2-10 looms, which employ small numbers of workers (less than 10). The focus of the investigation was to understand the actual conditions of working and the living environment of the weavers as a case study of rural workers in UP, and to estimate a living wage which should be able to meet the cost of a decent lifestyle. Prices of grains, cooking oil, eggs, milk and milk products, meat, fish, pulses, fruits and vegetables were collected from multiple points located in the 15 different localities. Workers' homes were visited to estimate the cost of housing and to understand the condition of housing and the environment in which they live. The field investigating team also visited dispensaries to understand how workers took care of their routine health problems as well as schools to gain an understanding of what education was available and how much it cost.

5.2 The Anker methodology

This report is based on the living wage benchmarking methodology developed by Richard Anker and Martha Anker, improving on their earlier work on living wages published by ILO (see Anker, 2006a, 2006b, 2011). The Anker methodology provides a process to measure the living wage in local conditions, taking into account the cost of food, housing, health, education, transport and other related costs to provide a decent life for a family.

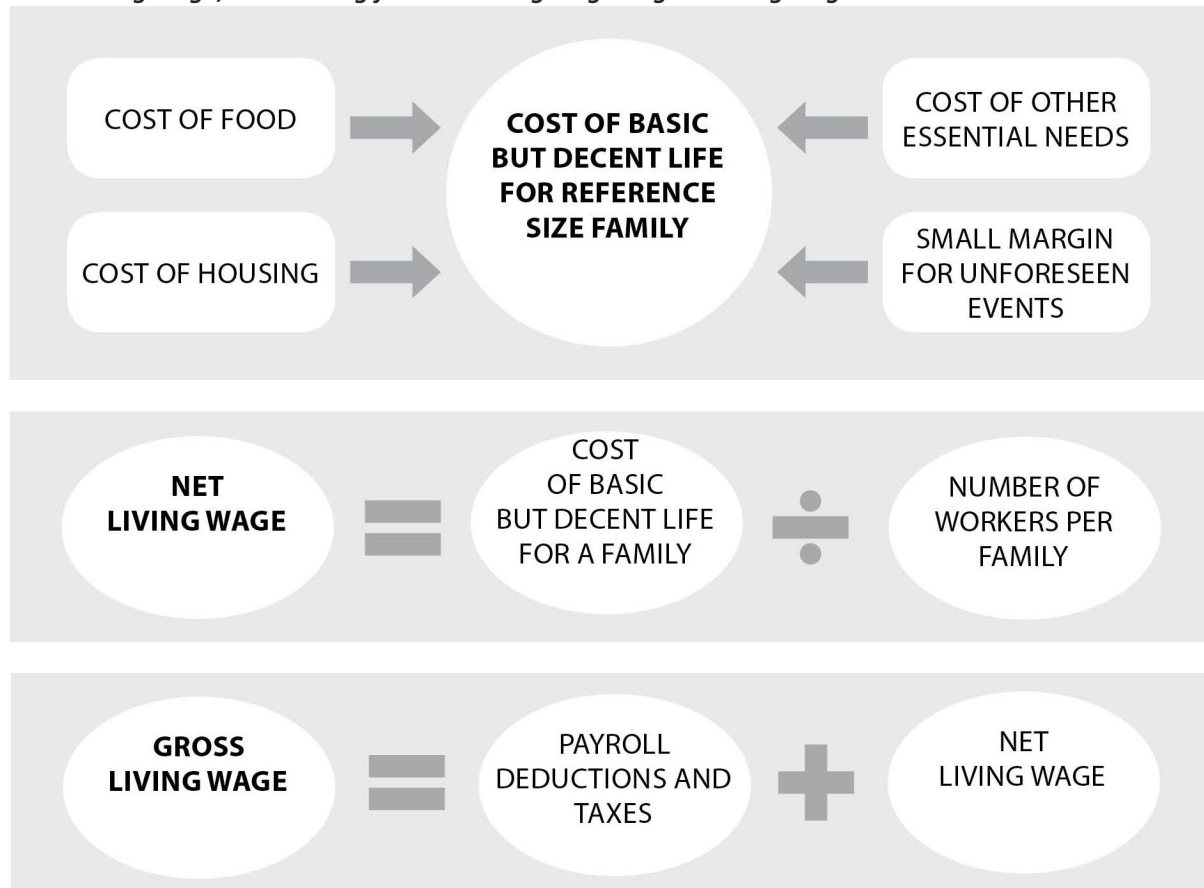
The principles and innovative aspects of this methodology include:

- The assumptions used to estimate a living wage are clearly stated, so that all the stakeholders understand how living wage benchmarks are estimated, and what workers and their families would be able to afford if they earned a living wage.

- Living wage is based on normative standards such as a nutritious diet, healthy housing, adequate health care and education for children.
- Living wage is based on a realistic estimation of costs calculated specifically for a given time and place. Therefore a living wage increases with economic development and rising incomes.
- Separate living wage benchmarks are necessary for rural and urban areas.
- Wages paid by establishments to compare with a living wage include all forms of remuneration including fair and reasonable value of benefits paid in-kind and cash allowances, excluding overtime.
- The living wage methodology is internationally comparable as the benchmarks are based on the same principles everywhere.
- The living wage methodology is practical and relatively inexpensive, as it uses a judicious mix of critical analyses of secondary data and rapid assessment methods for collection of primary data.

The figures below explain how the living wage was estimated for the workers of rural UP.

Table 1: Components of a basic but decent life for a family, moving from cost of a basic but decent life to net living wage, and moving from net living wage to gross living wage



Source: Anker & Anker (2016).

5.3 Estimating the living wage

A living wage is the amount of take-home pay required for a family to maintain a decent standard of living. The living expenses are calculated for a basic acceptable living standard for the reference family size, based on an estimate of food costs, housing costs, preliminary estimate of non-food non-housing costs with post-check adjustments (as necessary) for education, health care, transportation, and additional funds for sustainability, emergencies and social participation. The assumptions and procedures used to estimate each of these costs are discussed in the following sections.

SECTION I.

Cost of a Basic but Decent Life for a Worker and Their Family

6. FOOD COSTS

The cost of food for a living wage in rural Uttar Pradesh has been estimated on the basis of food prices for a low-cost but nutritious diet for an average family of five.

The energy required for basic bodily functions (indicated by Basal Metabolic Rates) is determined by the Schofield equations, which is based on inputs of age, gender and body size. The body size (weight) input is based on an assumption of a BMI of 21 (suggested by FAO/WHO/UNO, 2004) for the height of an average Indian adult male of 1.64 metres and Indian adult female of 1.5 metres. Once the basic energy requirements are determined, these are adjusted for the physical activity levels. Children are assumed to have moderate activity levels, and adults in our case, because of the nature of their occupation (not involving non mechanised farm work) are also assumed to have moderate activity levels. After making small adjustments for the extra calories needed for pregnancy, our calculations suggest the calorie requirement of 2,157 per person.

6.1 General principles of model diet

The model diet has been prepared on the basis of the following general principles to estimate a living wage:

- i) To find the nutritional content of the items that are included in our model diet, we have used the National Database provided by Indian Council of Medical Research (ICMR), which provides the calorie, protein and fat content of each food item (based on edible portions). The edible portions have been calculated on the basis of data provided by USDA NAL.
- ii) The diet should be palatable, namely, reflect local food preferences. The choice of various items under different food groups represents the commonly purchased items of acceptable quality, including non-vegetarian food. For instance, under cereals & grains, rice and wheat are included, the two common cereals in India, whereas prepared cereals are excluded as these are not popular options in the area of study. Potatoes are included, as it is an important source of starch and a key item in the Indian diet. The cooking medium differs in different parts of the country; refined vegetable oil or mustard oil is included as it is most commonly used in this part of the country. In addition to two green and two other vegetables, tomatoes and onions are included which are important items in the preparation of Indian meals.

- iii) The diet is relatively low in cost while it is 'nutritious'. For food items, where different varieties are available, (for instance, vegetables, fruits, and pulses), only lower cost items have been included. In pulses, moong dal and chana are included which are cheaper than other popular pulses such as Arhar and Urd. Only bananas are included in fruit, as they are available in all seasons and are also cheaper than other fruit. Due to the high price of goat meat, it has been dropped from our model diet, and the non-vegetarian diet has been restricted to chicken and fish.
- iv) Based on WHO / FAO (2007) guidelines, 10-15% of calories must come from proteins. Based on the Ankers' methodology, the proportion of calories coming from proteins should increase with the status of development of the country, and for a lower middle-income country such as India, 11-12% is considered acceptable. Furthermore, limited amounts of animal-based foods as well as protein-rich, plant-based products are expected to be included in a model diet, despite the high cost per calorie. Two types of pulses have been included, as these are important sources of protein in the Indian diet. Under dairy products, we include milk. Expenditure on milk products is limited as many of them (especially curd) are prepared at home from raw milk. Meat is not a popular source of protein among Hindus in North India, but a preferred part of the meal among Muslims. The choice of meat is restricted to chicken and fish which are not only more popular and cheaper, but also their consumption has not been subject to political or religious interventions (unlike pork and beef). In our final diet, 11.5% of the calories come from protein, and 18.2% of the calories come from fats. It includes one cup of milk per person per day and about two portions of meat per week.
- v) WHO / FAO recommend that a person eats at least 400 grammes of fruits and vegetables per day (not including roots and tubers, but including legumes and pulses). However, this norm is not met by a majority of people even in the high-income countries. Hence, Ankers' methodology suggests at least 300 grammes of fruits and vegetables per person per day, with an increase of 25 grammes with each development level. Thus, for lower middle-income countries, 325 grams of fruits and vegetables (excluding roots and tubers) per person must be included. Actual consumption data suggests that vegetable consumption is about 135 grammes per capita per day (for all vegetables) and 35 grammes of fruits, per capita per day. The portions of vegetables and fruits in our diet meet the requirements of 325 grammes (including pulses).
- vi) Consumption of sugar and edible oil are included in the model diet for palatability.
- vii) Based on the information available from the household expenditure survey, 5% has been added to the food costs for salt, spices, condiments and sauces. Although this is higher than the typical 1-3% observed in most other countries (Anker & Anker, 2016), our estimate is slightly lower than the estimate given by the National Sample Survey (NSSO, 2012a), which suggests that approximately 6% of the total food expenditure in rural UP is attributed to spices alone. Since fewer vegetables, fruit and types of oil are included in our model diet, we add 10% to the food costs to ensure variety. Recent literature also indicates that more

varied diets are being consumed at all income levels.⁵ Also 4 percent has been added to take into account some wastage or spoilage of food.

viii) The cost of the model diet is determined by adding the food prices to the model diet. Before finalising the model diet, as a final iteration, adjustments have been made by reducing those food items which have a high cost per protein or high cost per calorie, without compromising on the basic principles that guide the preparation of model diet, like conformity to local tastes, preferences and nutritive content. For instance, although guava and bananas were included initially, guava has been removed as it is an expensive source of calories, but at the same time the quantity of banana has been increased. Similarly, chicken, which is less expensive, was included instead of goat meat, which is more expensive.

6.2 Model diet

Table 2: Model diet used to estimate living wage for rural UP

	FOOD	EDIBLE GRAMMES per person per day	PURCHASED GRAMMES per person per day	COST PER KILO (Rs.)	COST (Rs.) per person per day
1a. Cereals and grains	Wheat	203	203	16.20	3.28
	Rice	157	157	20.00	3.14
2a. Roots and tubers	Potatoes	113	119	12.00	1.42
3. Pulses, legumes, beans	Moong	14	14	120.00	1.68
	Chana	14	14	80.00	1.12
4. Dairy	Milk	240	240	27.00	6.48
5. Eggs	Eggs	4	4	71.90	0.32
6. Meat & fish	Fish	4	7	70.00	0.47
	Chicken	8	10	160.00	1.67
7a. Green leafy vegetables	Spinach	42	59	20.00	1.18
	Cabbage	42	53	12.00	0.64

⁵Gaiha R., Kaicker N., Kulkarni V. and Thapa G. (2014). "Dietary Shift and Diet Quality in India: An Analysis based on 50th, 61st and 66th rounds of NSS" in Jha R., Gaiha R. and Deolalikar A. (eds), Handbook on Food, Edward Elgar Publishing, Cheltenham, UK, ISBN: 978-1-78100-428-9.

7b. Other vegetables	Cauliflower	42	67	12.00	0.81
	Onion	42	47	30.00	1.41
	Tomatoes	42	47	30.00	1.40
8. Fruit	Banana	85	133	30.00	3.98
9. Oils & fats	Refined oil	20	20	88.00	1.76
10. Sugar	Sugar	27	27	32.00	0.87
11. Non-alcoholic beverages	Tea leaf	2	2	190.00	0.42
Total cost		Rs.32.05			
Total cost (after taking into account spices and condiments, spoilage and wastage, and taste for variety)		Rs.38.14			

6.3 Food prices

Prices for a variety of qualities and quantities of foods from different types of venue (both open air markets and small neighbourhood stores) where workers typically shop were collected.

6.3.1 Collecting food prices

The first author of the report spent three days in the field training the local researchers to collect the prices of vegetables, fruit, cereals, pulses, meat, fish, oil and other food items to estimate the cost of our model diet. In order to estimate the cost of our model diet using the prices that workers actually pay, the research team collected food prices from places where workers usually shop. The research team visited at least two to three vendors selling vegetables and fruit in markets and also the neighbourhood shops in each of the locations. In the markets, many vendors sit next to each other selling popular vegetables and fruit. In most cases, workers visit these market places either on foot or on bicycle to shop. The neighbourhood shops are located very close to the residential areas where a limited variety of vegetables and fruit are sold. The research team also visited a few large local markets where grain, cooking oil, wheat, pulses, sugar and spices are sold. Shops selling meat and fish are usually located a little way from the main market. Food prices were collected from these different shops located around the district of Bhadohi and Aurai (next to Bhadohi).

While some of the vegetables and fruit are sold by weight, others are sold by unit or number. Accordingly prices are quoted per kilo or litre or for number of units. Often prices vary depending on the quality of

vegetables and fruit, and also depending on the quantity purchased. For example, prices of cereals such as wheat and rice could be less if they were bought in quantities above 5 or 10 kilograms. We use the least expensive for the quantity that is practical for workers to buy at one time. Prices of fish also vary depending on the type and size of the fish. We weighed eggs and bananas, which were often sold in units, in order to determine their price per kilogram. Similarly cauliflower was also weighed to calculate the price in kilograms. Vegetables were also weighed before cleaning and after cleaning (peeling) to determine the edible proportion.

In order to reduce the cost of the model diet, the lowest priced variety was chosen after collecting prices for a range of fruit, vegetables, pulses and oil. Care has been taken to ensure that the food used in the diet is of acceptable quality and quantity, for example:

- Moong and Chana dal were chosen as they are among the least expensive pulses
- Spinach and cabbage were chosen for the leafy vegetables as their price was cheaper than many others; cauliflower was added as a third vegetable
- Only banana has been included for fruit as most other fruit is seasonal and more expensive
- Only chicken and the cheapest variety of fish have been included in the non-vegetarian diet as they are cheaper than goat meat.
- Potato, tomato and onions have been included in the diet as they are considered essential ingredients of everyday cooking in India.

6.3.2 Analysis of food prices

For all the food groups, we have included the low cost (but commonly purchased) varieties in our model diet after collecting prices of all varieties. The lowest price (price of the variety which is the cheapest) of each item available in the store / market, has been taken to compute the median price for all markets for that item. On the basis of these prices, the cost of the model diet was calculated.

6.3 Summary of food costs

The cost of the model diet, after taking into account spices and condiments, spoilage and wastage, and taste for variety, is Rs.38.14 per person per day, which amounts to Rs.5,801 per month for a family of five (assuming 30.42 days in a month).⁶

7. HOUSING COSTS

Housing is a basic human requirement in a civilised society. For an average citizen, owning a house means significant economic security and dignity. There is an increasing recognition of a close relationship between housing and health and wellbeing of the people (Gopalan & Venkataraman, 2015).

⁶ Through the Mid Day Meal Scheme, every child within the age group of six to fourteen years studying in a government school is supposed to be provided hot cooked meal meeting nutritional standard, free of charge every day except on school holidays. However, during the conversations with several workers and contractors, we were told that workers, in general, prefer to send their children to private schools rather than government schools. The reasons for preferring private schools included English as medium of instruction and better quality of education imparted in private schools, and hence we do not take into account, the value of free meals provided by the School.

7.1 Local standard for basic acceptable housing

As a first step it was decided that the size of the family consists of five people. This allowed the authors to estimate the cost of basic housing that also meets acceptable standards. According to the 8th Planning Commission of India (1995), the physical dwelling unit is not the sole element of housing; equally important is the provision of basic services like potable water, sanitation, drainage and electricity. In addition, the type and location of housing is inextricably linked to employment and affordability. It should be noted that a good percentage of India's rural population still live in *kutcha*⁷ (non-permanent) houses, which are not often safe or hygienic.

Housing is an acute problem in India. It is estimated that there is a shortage of around 18 million houses, with 99% of this in the economically weaker sections of society. Many international organisations, including the Global Living Wage Coalition have agreed on certain minimum housing parameters, for a decent lifestyle, which include (i) privacy; (ii) security; (iii) hygiene; (iv) safety; (v) potable water; (vi) clean toilet; and (vii) fire and electrical safety. India has various national, state and local government departments, authorities, and schemes concerned with provision of affordable housing and also setting housing standards. Common among the acceptable housing norms adopted by many of these authorities are:

- Minimum two living rooms including a bedroom
- Ample veranda (sit out) space
- Built up area of house should not exceed one third of total land area
- Separate kitchen with paved sink or platform for washing utensils
- Tube well or dug well within a quarter of a mile from the house
- Cattle shed should be at a minimum distance of 25 feet from the house
- Window area should be at least 10% of floor area
- Sanitary latrine should be present
- Provision for proper waste disposal

The standard of living space recommended for housing of the Low Income Group (LIG) is a minimum 517 sq. feet or 48.03 square metres (Guidelines for Affordable Housing in Partnership, Ministry of Housing & Urban Poverty Alleviation, 2013). Therefore, our housing standards for rural UP aims to ensure that the houses are of permanent and durable structure - based on minimum international standards for healthy and decent housing. A house needs to have:

- About 48 square meters of living area (based on the average of the standards of living space recommended for LIG housing)
- Minimum two rooms (living room and bedroom), plus kitchen. Separate kitchen or cooking area inside the house
- Floor made of cement or mosaic
- Walls made of concrete/ burnt brick/ un-burnt brick/ wood/ stone
- Roof made of burnt brick/ concrete / tiles/ metal sheets
- Ceiling with a minimum height of 2 metres
- Flush toilet, even if shared / pit latrine with slab

⁷ A *kutcha* house is a temporary and makeshift structure usually made of mud and straw.

- Water from a safe source, hand pump or well in the vicinity
- Liquid petroleum gas (LPG) / Piped natural gas (PNG) / fire-wood available as cooking fuel
- Electricity / kerosene available as standard source of lighting
- The house maintained in a reasonable condition

7.2 Rent for acceptable housing

The research team visited 27 residences of weavers, including two single rooms (which were hired on rent by migrant workers who lived on a shared basis), in 15 different localities. For the 25 houses visited (excluding the two single rooms), the quality of material used and the condition of houses and their environment were not found to be satisfactory. Many of the houses were:

- inhabited by a large number of people
- not built with material meeting with international standards for a safe and durable house
- not found in good condition.

As Table 3 below shows, of the houses we visited in Bhadohi 10 had five to six people living in them while 15 houses had more than seven people using the space. Thirteen houses had three to five adults, while another seven houses had more than five adults living in each.

Four of the houses visited had **walls** made of mud/clay, 18 of them had walls made of burnt bricks, only two had walls of concrete or RCC and one had stone walls. Sixteen of the houses had a concrete **roof**, eight houses had roof made of burnt brick and one had a roof made of stone/slate. Many houses (13) had a mud **floor**, nine had a concrete floor and three had a floor made of burnt brick. Most houses had a **foundation** built at more than 2 feet above ground, except three. Two of the houses were built at ground level without any foundations. While the **ceilings** of all houses were more than 7 feet high, the doors of some of the houses were less than 6 feet high. Most houses had moderate quality of **ventilation** with one window each in each room; only eight houses had two windows in each room. All the houses had two or more **rooms**, some with more than five rooms. Six of the houses visited had a **living space** between 200 and 400 sq.ft.; five had 400-500 sq.ft. and 16 of them had 500 sq.ft. or more space. While a few (10) had separate **bedrooms** only two had a separate living room. Only six houses had a separate **kitchen** and only three of these were inside the house. Only three houses had piped **water** inside the house, while the rest depended on a hand pump for drawing water from a bore well, which was situated in the vicinity outside, usually shared by several houses in the neighbourhood. Three houses had a **toilet** inside the house while most of the rest used open fields/spaces for bathing and defecation.

Two houses had a refrigerator, six houses possessed a motorcycle, while 20 of them had a television. All houses had at least one fan. While all the houses had access to **electricity**, none received a 24-hour supply of electricity, most of them reporting around 8-10 hours of supply per day. Eleven houses surveyed were found to be in good **condition**, meeting the standards outlined above, while others were in poor or less than satisfactory condition. Many of the houses were not **maintained** well and needed repairs, while others were not meeting the minimum standards of decent living.

Images 1-4 show photographs of some of the houses visited by the research team.

The following table shows a summary of the status of houses visited during the field study.

Table 3: Status of houses visited in Bhadohi

CHECKLIST	DETAIL (surveying 25 houses)
Adequate space	Only 14 houses had 48 sq. metres or more space
Separate bedroom	10 houses had separate bedroom(s)
Separate kitchen/ cooking area inside the house	6 houses had separate kitchen/cooking area inside
Floor made of cement/mosaic	9 houses had cement floor
Walls made of concrete/ burnt brick/wood/stone	21 houses had walls made of standard material
Roof made of burnt brick/ concrete / stone/ burnt brick/ tiles/ metal sheets	All houses had roof made of standard material
Ceiling with a minimum height of 2 metres	All houses had roof with more than 2 metres of height
Quality of ventilation	All houses were found to have moderately good or good ventilation
Flush toilet/pit latrine with slab	3 houses had toilets inside 5 had shared toilets outside
Piped water	3 had piped water inside the house
Hand pump or well in the vicinity	23 had access to hand pump/well near the house
LPG/ PNG as cooking fuel	3 houses used LPG for cooking
Fire-wood as cooking fuel	22 houses used firewood/cow dung cake
Electricity/kerosene source of lighting	All houses had electricity supply for a limited period of time every day supplemented by kerosene
Condition	11 houses were well-maintained 4 were in moderately good condition 10 were in poor condition

Image 1: Houses with tile roof, mud walls and mud floor



Source: The authors

Image 2: House with thatched roof, mud walls and mud floor



Source: The authors

Image 3: A better house with cemented floor, plastered walls & reinforced cement roof



Source: The authors

Image 4: Another cluster of houses



Source: The authors

The above description seems to reflect the general condition of housing in rural UP. However the houses in the area we studied seem to be of better quality compared to the condition of the average house in rural UP. This may be explained by the fact that most workers have a steady income, though small, from carpet weaving, which may not be the case in many other parts of rural UP. According to 2011 Census, out of the total number of houses in rural UP, only 38.72 percent were classified as “good”, 53.90 percent households as “liveable” and the remaining 7.38 percent as “dilapidated”.

An acceptable standard of floor is made of cement, mosaic or burnt brick but 83.47 percent of the houses of rural UP have a mud floor. Only 4.29 percent has burnt brick, 11.05 has cemented floor, 0.55 percent has stone floor, 0.32 percent has mosaic/floor tiles. It is clear that the vast majority of houses in rural UP do not meet the minimum standards of decent housing.

However most of the houses in rural UP appear to have walls made of acceptable material – concrete, burnt or unburnt brick, wood or stone. In our survey 64.20 percent had walls made of burnt brick, 23.89 percent have walls of mud or un-burnt brick, while 1.55 percent have stone packed with mortar and 0.44 percent of houses have walls made of concrete.

Similarly, against our standard norm of roof made of concrete, stone, slate, burnt brick, tiles or metal sheets, 31.48 percent of rural houses have a roof of burnt brick, 13.22 percent have roof of stone or slate, 13.82 percent have a roof of concrete, 0.60 percent have a roof made of machine made tiles, the remaining 41 percent of houses including 9.77 percent have a roof made of hand-made tiles, 27.56 percent have a roof made of thatch/grass/wood/bamboo/ mud, and the rest have other material including metal sheets. Nearly 60 percent of the houses had no more than two rooms and did not have a separate bedroom and very few, if any, house has a separate kitchen. Most houses had access to water at a distance of 10-50 metres either through hand pump or bore-well.

7.3 Rental equivalent value of basic acceptable housing

As expected, most weavers we visited live in their own houses, which made it difficult for us to rely on national statistics on housing expenditure. We found that in Bhadohi, only the migrant workers lived in rented rooms on sharing basis or lived/ slept at night in the same space as they worked during the day. Therefore, it was not possible to estimate the rental cost of the houses in which the weavers lived. Thus, we had to rely on a different approach to estimate housing expenditure.

One approach is to look at the rent paid by the migrant workers for smaller dwellings, and scale it up to meet the requirements of the housing standard. For instance, the migrant workers stay in rented rooms (with no other facilities) of about 144 sq.ft., paying Rs.800 per month, which may be extrapolated to Rs.2,872 for a 517 sq. ft. (48.03 square metres) house. Since this house does not have amenities, we may add Rs.500 per month as additional cost of amenities to get the total rent of Rs.3,372.

In another location, a school teacher paid a rent of Rs.3,500 for a house with an area of 900 sq.ft. and basic facilities (kitchen, toilet, bathing facilities, etc). This again can be extrapolated to Rs.2,011 per month for a 517 sq.ft. house (48.03 square metres).

A linear extrapolation is not always useful in the relationship between rent and area, especially when amenities are included, since amenities are more expensive per square metre. The rent per square foot decreases as size increases for houses with amenities (it has been found for Vietnam that the fall is to almost half). Using a correction for higher cost per square foot would make this Rs.4,022 per month.

These figures do give us a range to work with, so we have two estimates of rent: Rs.3,372 that did not meet our housing standard (in terms of amenities and materials), and Rs.4,022 for a house that met our standards.

7.4 Rental equivalent cost of owning a house

Another approach is to look at the monthly user cost of a basic acceptable house, which is estimated by calculating the cost of constructing a basic acceptable house and the assumptions for its life expectancy and its maintenance costs. Keeping the built area of around 53.8 sq. metres⁸ (579 sq. feet) as the recommended area for a decent house, the cost of constructing a house was calculated on the basis of information provided by the Central Public Works Department (CPWD), Government of India. The CPWD (2014) estimate is Rs,1,418.80 for one square foot. The cost of constructing a house with the floor area of 517 sq. ft., with two small rooms and a kitchen, toilet and bathing facility with basic parameters of safety and durability has been calculated as Rs.821,526.

The annual cost is given by the cost per year (equal to depreciation on a straight line basis), plus the maintenance costs and interest costs (i.e. cost of borrowing or the opportunity cost of invested funds). Assuming different scenarios of life expectancy of 20 years with 1 percent maintenance, 30 years with 1.5 percent maintenance and 40 years with 2 percent maintenance, the average monthly cost of housing is given in Table 4. We ignore the interest rates costs, as an effective financial system is absent in the rural areas. Also, most of the workers, we assume, would have built their house out of savings of their own or inherited wealth. We feel that the house built using CPWD standards would last for at least 40 years with 2 percent maintenance. Hence, this scenario is assumed for our calculations of user cost, which comes out to Rs.3,081 per month.

7.5 Summary of rent or equivalent cost for acceptable housing

We decided to use our estimate of Rs.3,081 from the user cost approach for housing cost to be on the conservative side

Table 4: Imputed rent based on construction cost and life expectancy

ITEM	SIZE/COST		
Area	579 sq.ft. (53.8 sq.metre)		
Rate per sq.ft. (Rs.)	Rs.1,418.80		
Cost of construction	Rs.821,526		
LIFE EXPECTANCY	20 YEARS	30 YEARS	40 YEARS
Annual depreciation cost (Rs.)	Rs.41,076	Rs.27,384	Rs.20,538
Annual maintenance cost (%)	1.0%	1.5%	2%

⁸ Assuming a living space of 48 sq. metres and increasing it by 12% to account for thickness of outer and inner walls.

Annual maintenance cost (Rs.)	Rs.8,215	Rs.12,323	Rs.16,431
Total annual cost (Rs.)	Rs.49,292	Rs.39,707	Rs.36,969
Total monthly cost (Rs.)	Rs.4,108	Rs.3,309	Rs.3,081

7.6 Utilities and other housing costs

In order to assess a realistic cost for housing, the cost of water, electricity, cooking fuel and lighting are included. It is difficult to calculate the cost of water as the source of water in most cases is the hand pump or bore well, which in many cases are provided by the local government, and free of cost.

7.6.1 Fuel for cooking and for heat in winter

According to 2011 Census data, 54.40 percent of households in rural UP use firewood for cooking, 27.86 percent use cow dung cake, while 6.39 percent use LPG for cooking. Out of the 25 houses visited in our field study, 22 of them used a combination of firewood and cow dung cake as the source of fuel for cooking as well as for heating in winter months; three of the households used LPG for cooking and firewood for heating. It was not possible for most of the respondents to calculate the cost they incurred for cooking fuel. However, we were informed that on an average, 20-30 pieces of cow dung cakes were used for cooking per day for a family of six - eight members. Typically, the cow dung cakes were not purchased, but were made by the women of the family. The market price of one piece of cow dung cake was found to be Rs.1. Therefore, on average, a family spends Rs.20-30 per day for cooking fuel, amounting to about Rs.600-900 per month. The market price for firewood was Rs.17 per kg, and the amount of firewood required to cook two meals in a day is approximately 2 kilograms. Again, firewood is not often purchased, but collected from nearby areas; but when the cost of buying is imputed, it turns out to be approximately Rs.35 per day, totalling Rs.1,050 per month. The LPG cylinder costs Rs.42.67 per kg, and it was found that a 5 kg cylinder typically lasts for seven to eight days (if no other fuel source is used). This amounts to Rs.853 per month fuel cost.

If we take the average of the cost incurred on these sources of fuel, we get the expenditure as Rs.883 per month.

7.6.2 Cost of lighting

More than 23 percent (23.77%) of rural UP households have access to electricity as a source of lighting, while over 75 percent use kerosene as the source of lighting. In the sample of houses that we covered in Bhadohi, every household, barring two, had electricity connection; but the power supply varied from 8-16 hours per day. In the absence of electricity, kerosene was mostly used for lighting. The cost of electricity per household ranged from Rs.240 to Rs.400 per month. Kerosene is available through the public distribution system (PDS) at subsidised prices, but most of these workers did not have the card to avail the benefits of PDS, or the fair price shop was not easily accessible. Hence, they bought kerosene from the open market at a price of Rs.30 per litre. The average consumption of kerosene by the households we visited was about 3-4 litres a month amounting to about Rs.105 per month per household. The cost of lighting therefore amounts to Rs.425 per month. In winters, firewood was mostly used for heating, but this was not bought from the market. Moreover, the same firewood that was used for cooking was used for heating as well.

To get utility costs, we can add the cost of lighting (Rs.425) to the cost of fuel (Rs.883), which comes to Rs.1,308 per month per household.

To validate this amount with the secondary data available in the 2011-12 consumption expenditure series of the National Sample Survey, we examined the amount spent on fuel and light by an average household in rural UP. In rural UP, the average monthly per capita expenditure on fuel and light is Rs.99.12, whereas the average monthly per capita expenditure on food is Rs.612.28. Thus, the ratio of fuel to food expenditure is 16.2%.

If we use this ratio and the cost of our model diet (calculated in the previous section), of Rs.5,801 per month per family, the approximate utility (fuel + light) cost per family per month comes to Rs.939. The difference between this, and our imputed figure, may be attributable to the fact that cow dung cakes and firewood are used as fuel, and that lighting is not purchased from the market and we imputed the cost for these.

7.7 Summary of housing costs

The monthly housing cost, including the cost of utilities (Rs.1,308) and rent or rental equivalent (Rs.3,081) for a living wage is calculated to be Rs.4,389 per month for a family of five.

8. NON-FOOD AND NON-HOUSING COSTS (NFNH)

Following the methodology recommended by Richard Anker and Martha Anker (Anker and Anker, 2016 forthcoming), non-food and non-housing costs are estimated in three steps.

In **step 1**, non-food and non-housing (NFNH) costs are estimated based on current expenditure patterns (using household income and expenditure data from NSSO, 2012a). The mean share of monthly per capita expenditures on various components - food and non-food – are analysed to estimate the NFNH to food expenditure ratio. This ratio should be derived from the expenditure patterns of the households in the 40th percentile of the income distribution for estimating a living wage. According to NSSO, 2012a, 52.96 percent of all household expenditure in rural UP is for food, 8.57 percent is for fuel and light, 0.78 percent on rent (because largely the dwellings are owned), 2.48 percent on pan, tobacco and intoxicants, and the remaining 35.20 percent is for all other expenditures. (Refer to Table 5 for the proportion of total expenditure spent on various items for an average household in rural UP, according to NSSO, 2012a.)

In **step 2**, expenditures that are considered to be unnecessary for a decent standard of living (e.g. alcohol, tobacco and private motor vehicle) are eliminated. As mentioned above, 2.48 percent of the expenditure on pan, tobacco and intoxicants are excluded from the NFNH expenditure. After excluding the unnecessary expenditures, the NFNH costs amount to 35.20 percent and the food costs amount to 52.96 percent. The ratio of all NFNH to food expenditure is thus 0.665.

The Ankers' methodology suggests using data for the household in the 40th percentile of the income distribution for rural areas of a developing country for estimating a living wage. If data for the region is

not available by expenditure classes, they suggest reducing the average NFNH to food ratio for all expenditure (where each rupee counts the same) as indicated above. We did not find data by income class for rural UP but we found data by income class for rural India has a whole. For rural India, the NFNH to food ratio (after eliminating unnecessary expenditures) for mean household expenditure was 0.649. For the 40th percentile household for rural India (taking the average of the ratios for the 4th and 5th deciles of the income distribution), the ratio was 0.480, or 26.1 percent lower than the ratio for the mean household expenditure. We used this 26.1 percent deflator to adjust the mean NFNH to food ratio for rural UP of 0.665 to derive an estimate of 0.491 for the household in the 40th percentile of income distribution for rural UP.

With a food expenditure of Rs.5,801 per month, the non-food non-housing expenditure is Rs.2,850 (0.491 × Rs.5,801).

In **step 3** important expenditure groups such as health care, education and any other major expenses are taken into account to assess whether available funds estimated in step 2 are sufficient for a decent living; if not, additional funds are added to ensure availability of adequate funds for a decent living. According to NSSO, 2012a, for a mean income household, the expenditure distribution for non-food non-housing costs is shown in column 1 and so implied amounts for each item included in NFNH are in column 3:

Table 5: Non-food non-housing expenditure (NFNH)

Item	Total monthly per capita expenditure in 2011-2012 NSS (%) (column 1)	Total NFNH in 2011-12 NSS (%) (column 2)	Amount (Rs. / month) assuming NFNH costs of Rs.2,850 (column 3)
Clothing, bedding & footwear	7	21	603
Education	4	11	316
Health	9	26	740
Recreation	1	1	42
Household consumables	4	11	316
Household durables	2	5	137
Conveyance	5	14	385
Consumer services	4	11	311
Total	35.20%	100%	Rs.2,850

Step 3 examines specifically whether funds allocated for health care and education are sufficient, as these are considered to be part of citizen rights.

Based on the following in-depth examination of health care, education and household furnishings and equipment, the funds for non-food and non-housing needs, have been increased, as explained below.

9. POST CHECKS OF NON-FOOD AND NON-HOUSING COSTS

9.1 Health care post check

According to the *Human Development Report 2015*, about 1.5 billion people are afflicted with multi-dimensional poverty, namely suffering from overlapping deprivations in education, health and living standards. A further 800 million are at the brink of falling back into poverty. Nearly 80 percent of the global population lacks comprehensive social protection. About half of all workers — more than 1.5 billion — work in "informal or precarious" employment. India, which ranks 130 among 188 countries, has 55.3 percent of the population (631,999,000 people) multi-dimensionally poor while an additional 18.2 percent (208,588,000 people) live near multi-dimensional poverty.

India in general has many health care challenges, including shortage of skilled health care staff and inadequate facilities and funding for health care. Rural India has a high child mortality rate of 56 for male and 66 for female children under the age of five, with a still higher rate of 69 and 85 respectively in rural UP (Census of India, 2011). The total per capita health expenditure (private and public together), including the provision for preventive and curative care in India in 2013 was a low USD 61 (WHO). Not only is the public health system in India under huge stress, but the quality of health care is far from satisfactory. The respondents we met during our field investigation expressed the view that public health care in rural Bhadohi was poor and unsatisfactory. Doctors and medicines were rarely available at the public clinics. As a result, people had no choice but to visit unauthorised clinics set up by unqualified medical practitioners. On one occasion as we approached a local clinic, the patients were chased away by the doctor, as he suspected of us being an inspection team. While public (government) healthcare in rural India (rural UP) is meant to be free, the facilities are poor or inaccessible. Most people we spoke to resorted to private healthcare facilities. According to local experts, respiratory illness is reportedly very common among carpet weavers, due to the dust that is generated in the process of weaving.

The preliminary estimate of funds for health care estimated as part of NFNH costs at step 2 was approximately Rs.740 per family per month. To ensure that this amount was sufficient for healthcare, we asked the respondents during the field study in rural Bhadohi about the number of times they fell ill and had to visit private clinics and pharmacies, and the cost of medicines and private consultancy. As almost all the people we spoke to reported that on average a person fell ill three to four times in a year and had to visit the private clinic to get medicines, it is necessary for a decent living to provide funds for families to be able to use private clinics and pharmacies most of the time.

We enquired about the estimated expenditure on health directly from workers. A family of five in rural Bhadohi visited the doctor and clinic three to four times a year to take care of routine illness, especially during seasonal changes. From the information collected from local people and private doctors in rural Bhadohi, it is estimated that consultations in private clinics cost Rs.50-100 per visit, Rs.300-500 for tests, and Rs.100-400 for medicine each time for routine ailments. In other words, each episode of illness costs approximately Rs.450 – 1,000. Assuming that people fall ill three times in a year, of which twice is a routine illness, where expenditure is limited to consultation fee and medicines, and once, the illness is more serious, where tests may have to be conducted, the annual expenditure on healthcare comes out to be in the range of Rs.3,750 to Rs.10,000. This gives us an average of Rs.572 per month. This however

excludes, extremely serious illness requiring hospitalisation. If one assumes that illnesses requiring hospitalisation occur once in 18 years and costs on average Rs.10,000⁹ per case this works out to be Rs.231 per month for a family of five, which would make total health care expenditures of Rs.803 per month for a reference family. This is not very different from the total amount for health care expenditures of Rs.740 included in the preliminary NFNH estimate. Hence no further adjustment is made.

Table 6: Expenditure on health care excluding hospitalisation costs

Medical needs	Minimum	Maximum
Consultation	Rs.50	Rs.100
Lab tests	Rs.300	Rs.500
Medicines	Rs.100	Rs.400
No of family members	5	5
Routine illness (incidence)	2	2
Serious illness requiring lab test (incidence)	1	1
Annual cost	Rs.3,750	Rs.10,000
Per month	Rs.313	Rs.833
Average cost	Rs.573	

9.2 Education post check

The Indian education system is divided into primary, secondary and tertiary levels. The school education consists of eight years of primary school, beginning at the age of six; four years of secondary school and two years of senior secondary school. Tertiary level (degree) education takes place at colleges/universities. A right to education is every child's right in India and parents are required to send their children to school. Education for all has been made a universal right since the National Policy on Education (NPE), 1986/1992, and has been seen to contribute to national cohesion, developing independence of mind and spirit, fostering the goals of socialism, secularism and democracy enshrined in the Constitution of India. This was further bolstered when Article 21-A and the Right of Children to Free and Compulsory Education (RTE) Act 2009 became operative on 1 April 2010.

Education in India is provided by the public sector as well as the private sector, with control and funding coming from the central government, the state government and local authorities.

Despite free education and mid day meals provided by the government schools, due to the poor quality of facilities and an absence of trained and motivated teachers in public schools, increasing numbers of parents, including those in rural areas, enroll their children in private schools. In fact, the share of the private sector at all three levels of education, including the primary level, has steadily grown during the recent years. A study by Ernst & Young (2014), shows that of 253 million students, enrolled in kindergarten to class 12, private schools account for 40 percent (around 100 million) of student

⁹ Hospitalisation of once in 18 years is consistent with findings of the 71st round of the National Sample Survey (2014) for rural UP. Average cost per hospitalisation. The average cost of hospitalisation in rural UP was Rs.18,693 in the NSS but this includes private and public hospitals.

enrolment. The *Annual Status of Education Report, 2014*, by Pratham, found that 51.7 percent of children in UP have been enrolled in private schools compared to 49 percent in 2013. We found during our field visit that the situation is no different in rural Bhadohi as well.

The research team visited both public and private schools in the same locality and found that the private schools were much better subscribed by the local people, with classrooms full to capacity, managed by teachers with a level of seriousness. In contrast the students at government schools were absenting themselves and teachers were not paying as much serious attention to the students and their learning. Even the free mid day meal scheme, which is offered by the government schools, does not seem to attract students to the classroom. As reported by Pratham's *Annual State of Education Report* more and more students are going to private schools in rural India. A headmaster of a local government school also admitted that the mid day meal lacked quality.

Given this scenario, we have assumed that for decency and effective use of the right to education, attendance in private school is required in rural Uttar Pradesh.

The respondents we met in 15 different locations in rural Bhadohi reported annual expenses ranging from Rs.1,425 to Rs.4,400 (1,425, 1,450, 1,500, 1,625, 1,750, 1,820, 1,930, 2,100, 2,240, 2,300, 2,350, 2,400, 2,495, 3,500, 4,400) incurred for a child in the primary school (classes 1-8) in a private school. This amount included registration fee, examination fee, tuition fee, cost of uniform, books and other learning material. Similarly, the annual cost reported by our respondents for educating a child in the lower secondary classes (from 9th & 10th) in a private school ranged from Rs.1,810 to Rs.3,520; and the annual cost for educating the child in the senior/upper secondary (private) school varied from Rs.2,275 to Rs.6,210. As is evident, private school expenses are progressively higher in higher classes, from primary to lower secondary to higher secondary.

Based on the annual cost of education at different levels, discussed in the preceding paragraph, the average annual cost for educating three children in a family is computed. For each child, the amount spent on education is Rs.2,240 per year for eight years of primary education, Rs.2,550 per year for two years of secondary education and Rs.4,347.5 per year for two years of higher secondary education. These are the median annual costs from the range given above. Thus, the amount spent per child is Rs.3,1715 over his / her 18 years of childhood. This gives an average annual cost of Rs.1,762 per child, or Rs.147 per child per month. The monthly expenditure incurred on education by a family with three children is, therefore, Rs.440 per month. This is Rs.134 more than the Rs.316, which was included for education in our preliminary unadjusted estimate of NFNH costs. Therefore, we added approximately Rs.100 per month to NFNH expenses to ensure that sufficient funds are available to workers to cover educational expenses at private schools for their children.

9.3 Consumer durables post check

According to Census 2011, 25 percent of rural households in UP own a radio, 72 percent a bicycle, and 24 percent a television. These consumer durables, along with basic furnishings may reasonably be considered to be required for a decent living. It is therefore expected that workers should be able to afford these items on a living wage. The cost of these items in the market has been calculated to include it in terms of monthly cost, using assumptions on how long these items last. These are given in the following table:

Table 7: Expenditure on consumer durables

Item	Number	Total cost (Rs.)	Life expectancy	Annual cost (Rs.)
Chairs	5	2,000	20	100
Bed (Double)	2	10,000	20	500
Mattress	4	2,400	20	120
Bicycle	1	2,000	20	100
Radio	1	800	20	40
Television	1	15,000	20	750
			Total annual cost	1,610
			Total monthly cost	Rs.134

We have already included an amount of Rs.313 per month per family for durable goods including the ones listed in the above table plus other electronic items, furniture and fixtures; hence, no further adjustment is made.

9.4 Transportation post check

An expenditure of Rs.170 per month on conveyance has already been included, and no further adjustment is made to this since markets, healthcare facilities, schools etc. are accessible within walking or cycling distance.

10. PROVISION FOR UNEXPECTED EVENTS TO ENSURE SUSTAINABILITY

As often happens, unforeseen events like illnesses, accidents and deaths can incur huge expenses, which can throw workers who barely manage to subsist into poverty and debt from which they may not be able to recover. Planned and inevitable events, such as marrying a daughter, can create serious financial crisis in the lives of workers. Therefore, it is important to add a small margin (to allow for savings) in order to estimate a living wage that allows for unexpected events. Thus a margin of 5 percent has been added to allow for unforeseen emergencies and some discretionary spending.

SECTION II

Living Wage for Workers

11. FAMILY SIZE NEEDING TO BE SUPPORTED BY LIVING WAGE

Living wage is a family concept (Anker 2011, 2016). Therefore, it is necessary to decide an appropriate family size for a living wage for rural UP. A family size of five people (two adults and three children) has been used to estimate the living wage for rural UP. This family size is a conservative assumption that is consistent with: (i) number of children rural women typically have and (ii) average household size in rural areas.

The average household size in rural Uttar Pradesh is six, and when single person households are excluded, it becomes 6.24 (Census 2011). Moreover, if very large households (10+ members), that would usually include two or more earners, are also excluded, the average household size is 5.8.

Since family size and household size cannot be used interchangeably, the typical family size can also be estimated by adding two adults and the number of children women usually have based on adjusted fertility rates. According to the Census, 2011, the total fertility rate for rural Uttar Pradesh is 3.4, which when adjusted for the child mortality rate of 72 per 1000 (Census 2011) amounts to 3.1552. This implies a reference family size of 5.2 (2 adults + 3.2 children). We decided to use a reference family size of five to be somewhat conservative as it is consistent with fertility rates and the number of children women are having in rural UP.

12. NUMBER OF FULL-TIME WORKERS IN FAMILY PROVIDING SUPPORT

As a living wage is a family concept, it is not unreasonable to expect more than one adult in a family to provide support through paid work in typical families that include two adults. It is usually assumed in other methodologies that either both the spouses/partners work full-time or that only one spouse/partner works full-time. The assumption of one full-time worker is based on the male breadwinner model of the household that was the accepted norm till some years ago in Western countries, as well as in some parts of the world today. The assumption of two full-time workers is based on the idea that all adults work full-time year round. Neither assumption may be realistic for rural UP. The reality is that many adults are not able to find work during the whole year, particularly in non-peak seasons. The situation has become more acute as land holding in rural India, including UP, has become smaller and/or many may not have access to / possession of any land.

To determine the number of full-time equivalent workers per family, the data available on (i) age and sex specific labour force participation rates (LFPR), (ii) unemployment rates (UR), and (iii) typical number of hours of work has been used. The average proportion of full-time work per adult has been determined by adjusting the average adult labour force participation rate by the unemployment rate and the part-time employment rate.

We use the following formulae to determine the number of full-time equivalent workers per family.

Proportion of full-time equivalent workers per family = $1 + \text{LFPR} \times (1 - \text{UR}) \times (\text{Current Daily Activity Rate} \div \text{Usual Activity Rate}) \times (1 - \text{Part-time employment rate} / 2)$ with $\text{LFPR} = \text{usual activity rate} \times \text{part of the year work}$. The second expression in the above formulae is calculated separately for males and females and

then an average is taken. The data on usual activity rate, UR and current activity rate are available for rural UP for the prime working age group 25-59 and are taken from NSSO (2012b). We use a part-time employment rate of 40 percent for women, based on time use data (Anker, Khan & Gupta, 1987) and assume a part-time employment rate of 5 percent for men, given that this is known to be low.

Table 8: Calculating workers per family

	LFPR (usual activity rate)	Unemploy ment rate (UR)	Current daily activity rate	Part of the year work (current daily activity rate ÷ usual activity rate × 52/50) ¹⁰	Part-time work when working	Number of full- time workers
Male	98.0%	0.6%	91.7%	97.3%	5.0%	0.924
Female	35.1%	0.2%	20.3%	60.1%	40.0%	0.168
Total					Average	0.546
1 + average number of full-time equivalent workers						1.546

Based on the above calculations, we consider 1.546 full-time (equivalent) workers per family because we assume that one person (weaver) is working full-time.

13. MANDATORY DEDUCTIONS FROM PAY AND CASH ALLOWANCES

Under the Indian Income Tax Act, every person responsible for paying any income, which is chargeable under the head 'salary', is expected to deduct income tax (TDS) on the estimated income of the person. The deduction is to be made at the time of the actual payment. However, no tax is deducted unless the estimated salary income exceeds the maximum amount not chargeable to tax applicable in case of an

¹⁰ This calculated ratio should be adjusted somewhat to allow for some sick leave and vacation time. Hence, it is multiplied by 52/50 to allow for two weeks of vacation & sickness.

individual during the relevant financial year. The income tax in India for the assessment year 2015-16 suggest an exemption limit of Rs.250,000 for individuals less than 60 years of age, Rs.300,000 for individuals between 60-80 years of age and Rs.500,000 for citizens of 80 years age and above. At our estimates of living wage, these workers are exempted from paying income tax, and hence, no tax has to be paid by them.

Further, there are no cash allowances given to the workers.

A statutory payroll deduction is the Provident Fund, i.e. the contributions made by the employee during the time he/she worked along with an equal contribution by his employer. Calculated at 12 percent of his/her basic salary and a similar amount is contributed by the employer. However employees have the option to contribute more than 12 percent. Employees drawing a basic salary Rs.15,000 per month or more are required to contribute to the provident fund. Since the workers in our study are paid on a piece rate, and most of them are contractual, they do not contribute to a Provident Fund.

Since there are no statutory deductions, the living wage gross pay needed equals the disposable income needed for decent living.

14. IN-KIND BENEFITS

In-kind benefits received from employers can reduce the amount of cash income that workers require to ensure they receive a living wage. Under different labour laws such as Employment Compensation Act, Provident Fund Act, Gratuity Act, Maternity Benefit Act, Employee State Insurance Act, several kinds of social security and health benefits are available to employees working in establishments employing 10 or more workers. However, we found that most of the weavers in our study work in small units where in-kind benefits are limited or non-existent. This is largely because these weavers worked for subcontractors who engaged small number of weavers and their operations were not registered as legal establishments.

In some of the bigger factories employing larger number of workers, they are given subsidised meals and minimal health care facilities. These are also bigger factories, which followed labour legislations protecting minimum wages and other benefits for the workers.

SECTION III

Minimum Wages and Gaps to a Living Wage

15. COMPARING OUR LIVING WAGE ESTIMATES TO MINIMUM WAGES AND PREVAILING WAGES: WAGE LADDER

Our estimate of living wage is Rs.8,929 per month per worker based on living costs of Rs.13,803 per month for a family of five. If we refer to the data disseminated by the National Sample Survey Organisation for 2011-12, the average monthly per capita expenditure for Rural Uttar Pradesh was Rs.1,156, which equals Rs.5,780 per month for a family of five and Rs. 6,759 considering that there has been 17% inflation since 2011-2012. However, it is important to qualify here that NSS estimates do not consider the cost or value of owner occupied housing, and hence, are an underestimate. Nevertheless, our estimate is significantly higher than that of current average household expenditure in rural Uttar Pradesh. However, if we look at some better-developed states of the country such as Punjab and Kerala, the average monthly per capita expenditure in 2011-2012 was Rs.2,345 (in rural Punjab) and Rs.2,669 (in rural Kerala). This equals a monthly expenditure of Rs.11,725 and Rs.13,345 for a family of five in Punjab and Kerala, respectively (which would be equal to Rs.13,718 and Rs.15,614 in Punjab and Kerala if updated for the 17% inflation since this survey). Thus our estimate of expenditure for a family to maintain a decent standard of living is similar to current expenditure in Punjab, and less than the expenditure estimates of Kerala.

15.1 Minimum wages

There is a plethora of labour laws covering employment, industrial relations and social security of labour in India, including the minimum wages. The minimum monthly wages, including dearness allowance, prescribed by the Minimum Wages Act for unskilled workers in the weaving industry is Rs.6,814.81, for semi-skilled Rs.7,085 and for skilled workers Rs.8,397.04. The minimum wage applies to all forms of employment in any activities covered under the Minimum Wages Act, whether permanent temporary, casual or hourly, and cannot be reduced by the value of in-kind benefits as partial payment of the minimum wage. The minimum wages act applies to any carpet making or shawl weaving establishments. As is evident, the prescribed minimum wage is inadequate to support a family of five.

The carpet weavers are considered to be semi-skilled. However, most of them work from home or for subcontractors who employ small numbers (7-9) of weavers. The subcontractors or their operations are not registered as legal establishments and remain in the unorganised sector. Hence a major proportion of carpet weavers, (except those who may be working in the few large factories), who are engaged by the unregistered subcontractors, are not protected by labour laws because many of the labour laws are only applicable to establishments with 10 or more employees and are also registered units.

15.2 Prevailing wages and benefits of weavers

The average daily wage in manufacturing in rural India is Rs.256.82. Assuming a worker works 24 days in a month, this equals Rs.6,163.8. If we adjust this for inflation, the average manufacturing wages for rural India are Rs.7,209 per month (NSSO, 2012b).

Although there is a basic minimum wage prescribed by the state for the workers with different skill levels engaged in the weaving industry, most of the workers covered in our study do not seem to get the benefits such as a provident fund, ESI (Employee State Insurance) etc. which are available under the law, primarily because the weavers work for contractors who have not registered their establishment and hence remained outside the reach of labour laws, although such contractors are not exempted from the regulations prescribed by the laws.

15.3 Piece rate and daily wage rate

In general the carpet weaving in Bhadohi is based on piecework for which workers are paid on the basis of the size of the carpet they weave. In addition, piece rate wages also vary depending on the quality of the carpet woven. In fact, the quality of the carpet varies depending on the process of making it (tufted or knotted), the number of knots, and the quality of threads used.

Hand-tufted carpets use high quality wool so the finished product looks much like a hand-knotted rug. However, unlike a hand-knotted rug, a hand-tufted rug is created without tying knots. These are made with a tool called a "tufting gun." Loops of wool are pushed through a backing that has been imprinted with the overall design. Hand-tufted rugs can withstand high traffic areas including entrances, hallways and family rooms. Weaving a hand-knotted rug requires a great deal of skill and takes time to produce. The number of knots per square inch determines the quality and the cost of a hand-knotted carpet. Making a hand-tufted area rug takes much less time to make, compared to hand-knotted carpet, thereby reducing the cost. A major proportion of weavers in Bhadohi area who are working in establishments audited by GoodWeave, are engaged in hand-tufted carpet weaving.

From our conversation with several workers during the field visit it was clear that the typical range of wages paid to the workers varied depending on the variety and quality of carpets made. Those who worked on knotted and handloom variety of carpets are considered better skilled. Information on wages for carpet weavers was collected by auditors who investigated the wages of 97 carpet weavers in 30 different establishments (see Table 9), undertaken by GoodWeave in 2015.

Table 9: Daily wages of carpet weavers in 30 selected establishments audited by GoodWeave

Type of carpet	Number	Minimum daily wage (Rs.)	Maximum daily wage (Rs.)	Median daily wage (Rs.)	Mean daily wage (Rs.)	Percent earning below minimum wage
Knotted	9	120	240	196	190	100%
Tufted	72	97	503	228	227	63%
Other	16	133	303	200	206	94%

The GoodWeave inspectors collected the information provided in Table 9 above during the period of January 5 and April 22, 2015. Almost all of the 97 workers interviewed worked in subcontractor facilities (28 of 30 facilities). Roughly half of the work sites were in rural locations and the other half were in semi-urban locations. Exporters who subcontracted the work were situated in Bhadohi (13), Panipat (7), Mirzapur (3) and the rest in Meerut, Sitapur and Karnal. Wages were calculated on an eight-hour

workday basis. For example if somebody worked 12 hours every day, then his or her earnings for the day was calculated for eight hours (i.e. earnings times 8/12). Piece-rate was calculated on the basis of area of carpet woven for eight hours per day, six days per week, 52 weeks per year¹¹. In most cases in the carpet industry weaving charges are calculated on the basis of area of carpet woven multiplied by earnings per square foot or square yard.

As we gathered from the few weavers and subcontractors we met during the field visit, and as evident from the survey conducted by GoodWeave, the amount earned by the workers is much less than the minimum wages prescribed under the law (Minimum Wages Act) for weavers, and much less than the living wage we estimated. Many of the workers work overtime (e.g. 12 –14 hours a day), but most of the looms are shut on one day of the week, so the number of days worked is about 24 in a month, at least during the peak season. There are, however, seasonal variations, as explained below.

15.4 Seasonal variability in number of days worked per week

As again gathered from the interviews with weavers and subcontractors, it was found that the work is seasonal, depending on the export demand/order, which peaks in the months of December to May. The migrant workers who came from Bengal, Orissa and Jharkhand met the demand of the peak season. During the peak period, i.e. the six months from December to May, the workers work eight hours a day (or more), and during the lean season, the workers work for not more than four-six hours in a day.

15.5 Bonus and overtime pay

As mentioned earlier, carpet weaving in Bhadohi (Rural UP), is carried out largely by weavers, who are engaged by subcontractors. The subcontractors set up a few looms where the weavers work on a piece rate system, some of which are home based as well. Such establishments are not registered and do not come under the labour legislative framework. Some weavers are migrants who come from other parts of the UP and other neighbouring states. The subcontractors may in such cases provide the migrant workers the space to stay, which is often the makeshift arrangement of sleeping on the floor where they work.

There are also a few factories, which are owned and operated by the carpet exporters themselves, employing larger number of workers. Such factories are registered under the Factories Act, and the workers are reportedly better paid (at least the prescribed minimum wages). During our visits to a couple of such factories, we were told that workers are given small benefits like subsidised meals, partial medical benefits and gifts and bonuses around important festivals such as Diwali. The workers in such factories are also likely to be paid overtime for working extra hours beyond the stipulated 48 hours per week as these are legally registered establishments, which are periodically visited by the inspection departments of the government.

15.6 Differences between sizes of production units that affect income of workers

Weavers who are working in larger establishments may earn more than those who work for subcontractors in smaller establishments or home-based on their own. However, the current study has

¹¹ Our study is for a 50 week working year as a minimum of two weeks will be deducted for vacation.

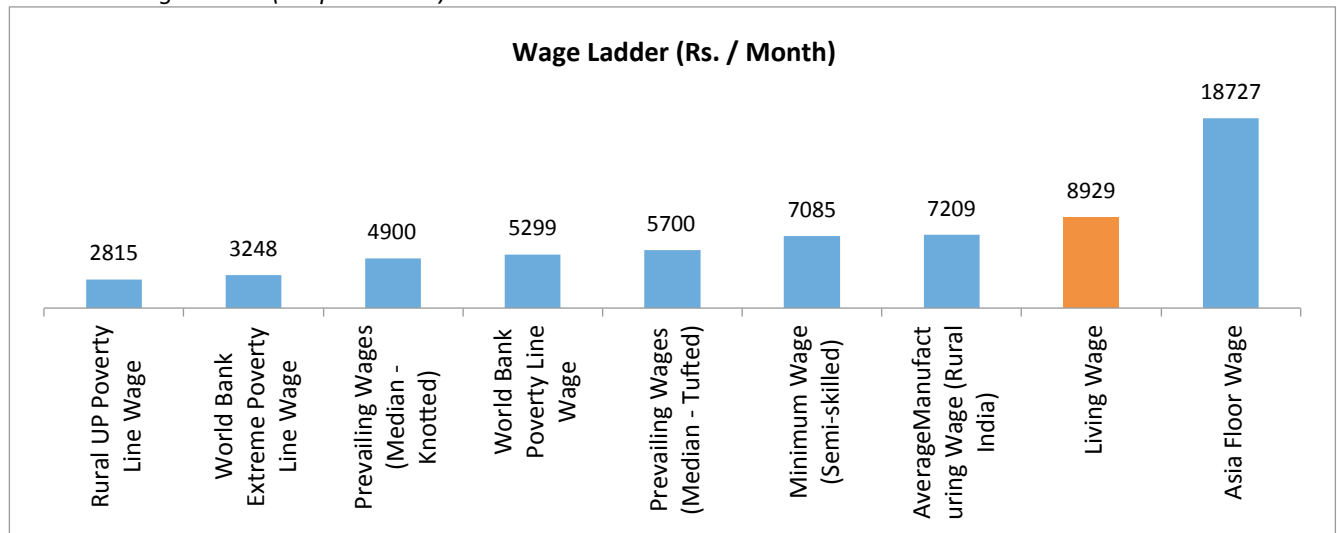
focused on the workers who are engaged by the contractors who work in smaller establishments, as this is the most popular mode of carpet weaving found in this region.

16. WAGE LADDER

The wage ladder illustrates how the living wage compares to other wages and economic benchmarks. We have already discussed the minimum wages in the sector and the prevailing wages in the industry. The prevailing wage (median) per month is based on the assumption that workers work for six days a week and 50 weeks a year (a minimum of two weeks is deducted for vacation).

Our living wage is much lower than the Asia Floor Wage for India (see Table 10).

Table 10: Wage ladder (Rs. per month)



16.1 World Bank Poverty Line Wage

We estimate the wages based on the World Bank Poverty Line of \$3.1 a day (PPP) and extreme poverty lines of \$1.9 a day (PPP). The poverty line in rupee terms (using the implied PPP conversion rate of Rs. / USD)¹² for a family of five per month is Rs.8,192 (i.e., $\$3.1 \times 17.375 \times 5 \times 30.42$) and Rs.5,021 (i.e., $\$1.90 \times 17.375 \times 5 \times 30.42$). The poverty line wage can be obtained by dividing these figures by 1.546, i.e. the number of workers per family. This gives us Rs.5,299 per month (for \$3.1 poverty line) and Rs.3,248 per month (for \$1.90 extreme poverty line).

¹² This is calculated as the average of the implied PPP conversion rates of Rs.17.11/USD for 2015 and Rs.17.64 / USD for the year 2016 from Quandl (Source: https://www.quandl.com/data/ODA/IND_PPPEX-India-Implied-PPP-Conversion-Rate-LCU-per-USD).

16.2 National Poverty Line Wage

The All India (Rural) Poverty Line for 2011-12 is Rs.816 per person per month, which equals Rs.4,080 for a family of five. The poverty line for rural Uttar Pradesh is Rs.768, which equals Rs.3,840 for a family of five. Dividing this by the number of full-time equivalent workers per family gives us the National Poverty Line wages which equal Rs.2,557 (at All India Rural Poverty Line) and Rs.2,407 (at Uttar Pradesh Rural Poverty Line). If we adjust these wages for inflation between 2012 and 2016, the revised wages are Rs.2,990 (at All India Rural Poverty Line) and Rs.2,815 (at Uttar Pradesh Rural Poverty Line).

17. SUMMARY CALCULATIONS FOR LIVING WAGE AND CONCLUSIONS

The living wage that we have estimated for rural Uttar Pradesh is Rs.8,929 (\$133) per month. As workers in the carpet belt of rural UP (Bhadohi) are mostly engaged on a piece rate basis with no other allowances or in-kind payment Rs.8,929 is the amount they need to earn for leading a decent life, (see Table 11 and Table 12).

This amount is higher than the minimum wage of Rs.7,085 - the amount mandated by the state for semi-skilled workers. It is also higher than the amount mandated for the skilled workers of UP, Rs.8,397. Based on assessment of the secondary data as well as the primary data collected from the field, we feel that the proposed living wage is necessary for a worker and his family to lead a decent life.

The proposed living wage will enable a worker and his or her family of five members to have nutritional, but inexpensive meals, to take care of routine health care problems, to maintain a decent house with minimum amenities, to educate his/her children and to be able to meet life's unexpected demands.

Table 11 - Summary table for calculating a living wage

Item	Local (Rs.)	currency USD
PART I: FAMILY EXPENSES		
Food cost per month for reference family (1)	5,801	87
Food cost per person per day	38.14	0.57
Housing costs per month (2)	4,389	66
Rent per month for acceptable housing	3,081	46
Utilities and minor repairs per month	1,308	20
Non-food/non-housing costs per month taking into consideration post checks (3)	2,956	44
Preliminary estimate of NFNH costs	2,850	43

Health care post check adjustment	0	0
Education post check adjustment	106	1.6
Other post check adjustments	0	0
Additional 5 per cent (approx) for sustainability and contingencies (4)	657	10
Total household costs per month for basic but decent living standard for reference family (5) [5=1+2+3+4]	13,803	206
PART II: LIVING WAGE PER MONTH		
Living wage per month, net take home pay (6) [6=5/#workers]	8,929	133
Mandatory deductions from pay (7)	0	0
Gross wage required per month for living wage (8) [8=6+7]	8,929	133
PART III: LIVING WAGE BASIC WAGE IN INDUSTRY CONSIDERING VALUE OF TYPICAL IN-KIND BENEFITS, CASH ALLOWANCES & BONUSSES IN INDUSTRY		
Typical value per month of usual in-kind benefits in industry (9A)	0	0
Typical value per month of common cash allowances and bonuses in industry (9B)	0	0
Net basic living wage when workers receive typical in-kind benefits, cash allowances and bonuses in industry (10) [10=6-9A-9B]	8,929	133
Gross basic living wage when workers receive typical in-kind benefits, cash allowances and bonuses in industry (11) [11=8-9A-9B]	8,929	133

Source: The authors

Table 12: Key values and assumptions for a living wage estimate

Exchange rate of local currency to USD	INR67 = US\$1
Number of full-time workdays per month	24
Number of hours in normal work week	48
Number of workers per couple	1.546

Reference family size	5
Number of children in reference family	3
Ratio of NFNH costs to food costs	0.491

Source: The authors

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