

3.

Describing and Measuring Livelihoods

In this chapter, we trace how livelihoods evolved from pre-historic times to the present and describe the broad pattern of livelihoods in each important historical period in India. Then we deal in greater detail with the issue of livelihoods in post-independence India. We look at data with variables such as employment, unemployment, inter-sectoral distribution of workers and of income over time, in addition to inter-status distribution of workers over time. We learn how some aspects of livelihoods can be ‘measured’ and interpreted in order to understand the inherent complexities a little better.

3.1 Historical Evolution of Livelihoods

In this section, we will see how people made a living in India during different periods of history and how social structures evolved to support such lifestyles.

3.1.1 Hunting-Gathering Livelihood Equilibrium

In the very early stages of human society, communities were primarily hunters and gatherers. During this period, human beings, recognizing the superior strength of other animals started living in groups. Community living was the predominant mode of living. However, during this phase there was very little accumulation of wealth, in the form of food. People hunted and gathered as much food as they could eat. The two main technologies developed at this time were fire and sharpened stones. As the human child took longer, compared to other primates, to stand erect and fend for itself, the system of the females taking care of the children emerged, while the males hunted.

As societies evolved, they became more complex and hence we see even during the pre-vedic period, some large centers of exchange (or trade) started developing in the Indus Valley region, which was the beginning of the process of urbanization. It gave rise to some non-farm livelihoods – people who did not produce their own food to make a living.

3.1.2 The Vedic Period

Over time, humans learned that they could cultivate some grasses and eat the seeds for nutrition. This paved the way for a settled way of life, with the commencement of agriculture. Tools for tilling the soil were developed. It also became important to determine, which crops were grown, who tended them and the lands on which they were grown. Therefore, the concept of a family and private property emerged. People also saw seasonal variations in production and availability of food. Large scale grain storages were built. With man's cognitive abilities, people started perceiving risks and the means to reduce them. Various forms of risk mitigation strategies, especially in the form of prayers to various elements of nature, emerged. However, in spite of the fact that these settlements came up along navigable rivers leading to growth of trade centers, a group of people who continued to live in undulating terrains with thick forest cover, continued with the hunting and gathering type of livelihoods. With development of technologies, some people started specializing in production of some tools or materials. Occupation based groups evolved. This was eventually codified into the *varna* or the caste system.

3.1.3 The Mauryan Period

The subsequent period witnessed a growth in production. Surpluses from agriculture were invested in producing handicrafts especially textiles. This meant, that traders accumulated more wealth than before. They controlled grain storages, which were earlier owned by kings. The practice of money-lending to meet the off-seasonal requirements also became common. This was the period when Kautilya prescribed norms to be followed for such lending. He also argued that

“A king's happiness lies in the happiness of his subjects. He must ensure people have rice, cows and clothes.”

With external armed invasions becoming more frequent, this period also saw a large number of people depending on the army or joining it to form the base of their livelihoods.

3.1.4 The Gupta Period

The growth saga continued. With the occupation-based caste system entrenched in society, and also acquiring its rigid, hereditary character, human capital accumulation got a strong boost.

A weaver's children produced better quality textiles; the farmer's children understood the character of their land and the seasons and produced more food, while the navigator's children invested their energies in developing stronger and stable shipping. With improved food and textile production, and superior navigation methodologies, maritime trade with East Asian countries flourished. As Indian produce became popular in other parts of the world, trade flourished. India also started exporting skilled manpower. In this period, Indian sculptors built many temples in other countries and kingdoms. However, most traders, as was their custom, returned back to their Indian bases and Indian kings rarely took political control of countries they traded with.

This period also witnessed growth of capitalism as a new form of livelihood. Irfan Habib's writing in the *Cambridge Economic History of India*, has revealed that in this era, some artisans or craftsmen, who did better than others, started accumulating surpluses. These surpluses were converted into productive assets such as looms. This led to emergence of a new pattern of livelihoods. Master Weavers, often efficient producers themselves, began to own several looms and employed other weavers to work as wage earners. They made their livelihoods not by producing cloth, but from the rent they earned from their looms.

3.1.5 The Dark Ages

On the other hand, this increasing popularity of Indian products also invited immigrant peoples and tribes from Central Asia into India, leading to expansion of Central Asian empires into India. The Kushan Empire, the Indo-Scythians, and the medieval Islamic conquest by Mohammed Bin Qasim of the Indian subcontinent were followed by numerous intrusions by clans of the Shakas, the Yavanas, Kambojas and the Pahlavas, first through the Punjab and the Indus Valley, which sometimes expanded further into the Ganges Plain. This led to serious breaks in economic progress, breakdown of governance and rise of many smaller kingdoms in different parts of the country. Considerable resources and efforts were spent in strengthening the defense forces. At the same time, several kingdoms such as the Chandelas, the Cholas, the Kadambas, the Rashtrakutas and the Chalukyas encouraged development of the performing arts. The arts flourished and became a major source of livelihood during the rule of Vikramaditya VI. The army provided a means of livelihood too, especially during times of lowered agricultural activity.

3.1.6 The Mughal Period

The Mughal rule in India witnessed systematization of land records and agricultural revenue settlement. This had several ramifications on the livelihoods of the people. It formalized the positions of many layers of tax collectors, who were far disengaged from the nuances of cultivation as one went up the hierarchy. It also introduced and almost standardized the system of fixed rent, replacing former systems of production-linked taxation. Construction of long roads and military expeditions had a bearing on the livelihoods of people. Foodgrains and hand woven textiles were transported long distances, increasing the wealth and control of traders. With the active encouragement of many rulers and wealthy traders, the work of artisans and craftsmen started getting prominence.

The Mughals also brought the culture of building of large monuments and mausoleums. These helped generate large scale employment, especially during periods of food shortages. During the Mughal rule, the emperors also shifted their capitals several times: from Delhi to Fatehpur Sikri, to Agra, to Aurangabad and so on. These transfers were accompanied by shifts in the regal paraphernalia, the court and the kingdom's major activities. Thus, apart from the large number of people who were engaged in such transfers, the livelihood patterns in some of these areas also went through significant changes.

3.1.7 The British Colonial Period

The British colonial period brought in several changes that affected the fabric of livelihood in this country. The first century of their rule saw mass displacement of weavers and artisans, as mill cloth and manufactured goods were imported from England. Later, the British decided to produce goods in India and introduced modern, mechanized production of cloth, opening employment in textile mills to all people, not limiting themselves to the weaver castes. They also introduced rail transport, improving mobility of goods and people's mobility across large areas. The British also introduced the system of permanent land settlement and fixed land revenue. This also brought land as an asset into the market. Just as other assets, land with proper documents could be sold or purchased. As land revenue was collected in cash, it increased the dependency of peasants on traders and money lenders.³⁸ The British also introduced the system of canal irrigation.

³⁸ Darling, Malcolm Lyall *The Punjab Peasant In Prosperity and Debt. 1928.* And... Hardiman, David, 1996. *Feeding the Baniya – Peasants and Userers in Western India*, Oxford University Press

Apart from increasing agricultural production, this also significantly affected the value of land (from its previous hereditary value to a productivity-linked valuation) and also altered the natural course of drainage affecting water-holding, biomass in soil, its salinity and other factors.

This period of European Colonial rule also witnessed growth in international maritime trade, especially with western nations, leading to growth of port towns, which became centers of export-import on adverse terms, leading to a sharp decline in the condition of artisans and craftsmen. Unlike its historical experiences in trade with China, Indonesia and other regional countries, trade with these western nations was transacted with a significant difference. The British, Portuguese and French traders were accompanied by their armed forces. Moreover, these foreign traders also started recruiting local people for their colony's army and for tax or revenue collection. This affected the livelihood pattern significantly and also created fault lines in society with some exhibiting loyalty to the land of their birth and others loyal to the British or colonial powers.

The presence of colonial powers also affected cropping patterns, with the requirements of European markets favored over local needs, in the process changing basic prices, as also the nature of incentives for enhancing production. Apart from exploiting the natural resources of the colonies, the colonial powers also began the process of shipping a large number of laborers, initially as prisoners and slaves and later as indentured labor, from populated colonies to less populated ones, for purposes such as cotton, sugarcane and other plantations, as well as for felling timber, and for mining and construction. This process of development and recruitment of natives for army and land revenue administration not only led to establishment of the service sector in the livelihood scenario, but also introduced a different system of education, alienating a section of the society 'Indian by birth but British by attitude and opinion' from the common people and their livelihood patterns.

3.2 Changing Patterns of Livelihoods since Independence

In 1947, India's independence from its colonial rulers brought in a new era in livelihood patterns. Now, there was a nationally elected government, which was mandated by Article 39 (a) of The Constitution of India that states:

“The State shall, in particular, direct its policy towards securing ... that the citizens, men and women equally, have the right to an adequate means to livelihood”.

However, in practice this has not been enforced. Partly, this is because the right to livelihood was placed by the Constitution makers in the chapter on the Directive Principles, which are not enforceable in a court of law, and not in the previous chapter on Fundamental Rights, which are protected by the courts.

In 1981, the State of Maharashtra and the Bombay Municipal Council decided to evict all pavement and slum dwellers from the city of Bombay. The residents claimed such action would violate the right to life, since a home in the city allowed them to obtain a livelihood, and demanded that adequate resettlement be provided if the evictions proceeded. The Bombay High Court, in the *Olga Tellis and Ors vs Bombay Municipal Corporation* case, “declined to provide the remedies requested by the applicants but found that the right to a hearing had been violated at the time of the planned eviction. The Court held that the right to life, in Article 21 of the Constitution, encompassed means of livelihood since, if there is an obligation upon the State to secure to citizens an adequate means of livelihood and the right to work, it would be sheer pedantry to exclude the right to livelihood from the content of the right to life. However, the right to a livelihood was not absolute and deprivation of the right to livelihood could occur if there was a just and fair procedure undertaken according to law”.³⁹

Recognizing that India was an agrarian society, where close to 70 percent of the people depended on agriculture for their livelihoods around the time of her independence in 1947, and that skewed ownership of land posed a serious bottleneck for a majority of those people, the state initiated several legislations for land reforms and abolition of the *zamindari* system, starting with Bihar in 1948. It also launched various programs such as the Community Development Program and the Intensive Agricultural Districts Program (IADP), to promote food production. It also created the Public Distribution System (PDS) to ensure that food was available to people at an affordable price.

But a significant shift in the livelihood patterns in the lives of people of India could be noticed with the introduction of high yielding crop varieties in the late 1950s. In the entire decade of the 50s, the Government of India invested in developing infrastructure such as the extensive networks of National and State Highways, irrigation projects such as the Bhakhra-Nangal, Mahanadi and Damodar Valley Corporation, and fertilizer factories and warehouses under the

³⁹ *Olga Tellis & Ors v Bombay Municipal Council* [1985] 2 Supp SCR 51. <http://www.escri-net.org/docs/i/401006>

Food Corporation of India's system to maintain large foodgrain procurement and distribution systems. This was followed by establishment of numerous agricultural universities in 1960s, which carried out research to develop locally adaptable agricultural practices, leading to the Green Revolution. This not only changed the livelihoods of a large number of people dependent on agriculture significantly, but it also resulted in the engagement of countless people in many related support services such as trade of agro-inputs and commodities, their transport and storage.

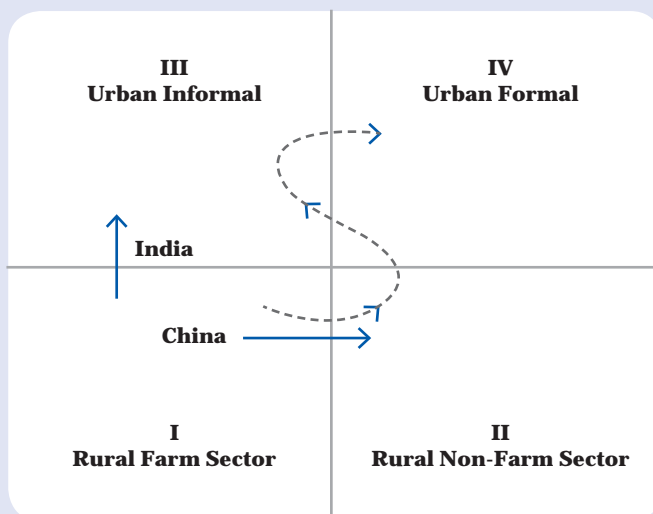
The surplus foodgrain production led to an enormous increase in related and supporting services, generating employment in activities all the way from supply of inputs – seeds, fertilizers, agro-chemicals, to agricultural services such as tractor-ploughing, irrigation, pesticide spray, mechanical harvesting and post-harvest, on-farm processing. Warehousing, trade, transportation and financial services became important and generated many new employment opportunities in rural areas and small towns. In the final stages, agricultural surpluses created both the supply of raw materials and also the capital for setting up many agro-processing industries such as rice mills, roller flour mills for wheat, sugarcane mills and oilseed crushing extraction plants.

Rural-Urban Shift in Livelihoods

In any economy, the normal transition is from the rural farm sector (mainly crop cultivation and animal husbandry), (shown in quadrant I in Figure 12), to the rural non-farm sector, clustered in small towns (quadrant II). This is then followed by rural–urban migration, with a vast majority working in the urban informal sector (quadrant III) and some graduating to the urban formal sector (quadrant IV). This classical path has been represented as a dotted S path in the **Figure 12**.

In the case of India, however, the transition to the rural non-farm sector did not happen adequately, except in a few states like Kerala, Tamil Nadu, West Bengal and Punjab. The larger states like Uttar Pradesh, Bihar, Odisha, Andhra Pradesh and even Maharashtra, saw massive rural-urban migration to large cities inside and outside the respective state. A vast majority of these workers went to work in the urban informal sector.

Figure 12: The Evolutionary Path Across Sectors in a Developing Economy



In contrast, China managed to shift over 100 million workers from farm to manufacturing by establishing a network of township and village enterprises.

The advent of independence followed by economic growth in India saw a significant shift in livelihoods – from the agricultural to the urban secondary and tertiary sector jobs, mostly in the informal or the unorganized sector. Unfortunately, the shift in GDP share was much more dramatic, thereby leaving workers in agriculture and in other workers in rural areas, with lower incomes. The significantly higher urban wage rates, even when adjusted for higher cost of living and a lower quality of life, remained the magnet which attracted steady rural-urban migration, mostly to the larger cities.

This can be seen in the two tables viz., Table 1 and 2. While the GDP share of agriculture and minor primary sub-sectors went down from 41 to 15 percent in the four decades from 1972-2010, the share of employment came down from 74 to 51 percent. This 23 percent shift, though significant in itself, was lower than the GDP share decline of 26 percent in the same period.

The reduction of 23 percent in employment in the primary sector was mainly offset by increase in construction, trade, hotels and restaurants and transport

and communications – all large employers of low-skill, casual workers and self-employed street vendors, etc. The organized sector in manufacturing and services employed only 7 percent of all workers.

Thus, the livelihood challenge in India remains two-fold:

- how to create more productive employment and thus income in rural areas - both in the farm and the non-farm sectors
- how to increase the skill levels and capital usage of urban informal workers so as to enhance their productivity and thus, income.

Table 1: Trends in Sectoral Share of GDP over Four Decades in India

Sector	Sectoral Share in GDP %							
	Sectoral share in GDP (constant at 1900-2000 prices)							
	1972-73	1977-78	1983	1987-88	1993-94	1999-2000	2004-05	2009-10
Primary Sector	40.92	40.41	37.15	31.72	30.01	24.99	20.2	15.23
Mining & Quarrying	1.83	1.86	2.25	2.39	2.51	2.33	2.2	1.74
Manufacturing	13.45	13.6	14.52	14.87	14.46	14.78	15.12	15.41
Utilities	1.27	1.45	1.71	2.08	2.43	2.49	2.29	2.1
Construction	6.77	6.76	5.81	5.88	5.76	5.71	6.62	6.67
Secondary Sector	23.32	23.67	24.3	25.23	25.15	25.31	26.24	25.92
Trade, Hotels, Restaurants	10.39	11.11	11.51	12.26	12.18	14.23	15.54	15.53
Transport & Communication	5.05	5.4	5.99	6.64	6.62	7.47	10.25	14.00
Financing, Insurance, Real Estate and Business Services	7.35	7.28	8.31	9.94	12.17	13.07	13.53	15.64
Community, Social and Personal Services	12.97	12.13	12.75	14.21	13.86	14.93	14.25	13.67
Tertiary Sector	35.75	35.92	38.56	43.05	44.84	49.69	53.56	58.84
All Non –Agricultural	59.08	59.59	62.85	68.28	69.99	75.01	79.8	84.77
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Various NSS Surveys

Table 2: Trends in Sectoral Share of Employment over Four Decades in India

Sector	Employment (UPSS) Share of Major Sectors (%)							
	Sectoral Share in Employment							
	1972-73	1977-78	1983	1987-88	1993-94	1999 - 2000	2004 -05	2009-10
Primary Sector	73.92	70.98	68.59	64.87	63.98	60.32	56.3	51.3
Mining & Quarrying	0.43	0.47	0.61	0.72	0.69	0.57	0.56	0.64
Manufacturing	8.87	10.16	10.66	12.22	10.63	11.01	12.27	11.5
Utilities	0.16	0.17	0.28	0.36	0.4	0.26	0.27	0.28
Construction	1.84	1.75	2.24	3.76	3.24	4.41	5.69	9.6
Secondary Sector	11.30	12.55	13.78	17.04	14.96	16.24	18.78	22.02
Trade, Hotels and Restaurants	5.11	6.12	6.35	7.06	7.59	10.27	10.89	11.38
Transport & Communication	1.77	2.11	2.49	2.66	2.87	3.63	4.08	4.48
Financing, Insurance, Real Estate & Business Services	0.51	0.62	0.83	0.82	0.97	1.24	1.71	2.25
Community, Social and Personal Services	7.39	7.62	7.96	7.54	9.64	8.29	8.24	8.57
Tertiary Sector	14.78	16.47	17.63	18.09	21.07	23.43	24.92	26.67
All Non –Agricultural	26.08	29.02	31.41	35.13	36.02	39.68	43.70	48.70
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Source: Various NSS Surveys

In the 1990s, a major shift in the livelihood patterns of people came about with rapid changes in the Information and Communication Technology field. A whole new range of livelihood opportunities emerged in the country. An early example was the introduction of the STD PCOs – long-distance phone calling booths. Later, with the widespread availability of mobile telephony, millions of people got employed in outlets for selling mobile phone talktime coupons and mobile handsets, while some have become internet service providers.

3.2.1 Who are the Poor in India?

The late Prof Arjun Sengupta, an eminent Indian economist wrote an article⁴⁰ in 2008, along with two colleagues, and asserted that. “a little more than three-fourths of the Indian people were poor and vulnerable in 2004-05”.

⁴⁰ Senguta, Arjun, KP Kannan and G Raveendran, 2008. *India's Common People: Who Are They, How Many Are They and How Do They Live*. Economic and Political Weekly, March 15, 2008.

They used data from the various rounds of the NSS on monthly per capita expenditure to infer this and classified the population into six segments: the extremely poor, the poor, the marginal, the vulnerable, the middle class and the high income group.

Table 3: Distribution of Population and Average Daily Per Capita Expenditure by Poverty Status (2004-05)

Sl No.	Poverty Status	Distribution of Population (in million)	Population Percentage Distribution	Average DPCE (in Rs)	Average DPCE (in US \$ PPP)
1	Extremely poor	69.7	6.4	9	0.9
2	Poor	167.3	15.4	12	1.3
3	Marginal	207.1	19.0	15	1.6
4	Vulnerable	392.0	36.0	20	2.2
5	Middle class	209.8	19.3	37	4.0
6	High Income	43.7	4.0	93	10.1
7	Extremely Poor & Poor (1+2)	237.0	21.8	11	1.2
8	Marginal and Vulnerable (3+4)	599.1	55.0	18	2.0
9	Poor and Vulnerable (7+8)	836.1	76.7	16	1.8
10	Middle and High Income (5+6)	253.5	23.3	46	5.1
11	All	1089.6	100.0	23	2.5

The tables from Prof Sengupta’s article gives us data on their total numbers and also key economic characteristics, such as the average HH size, work participation rate (working population as percentage of total population in that segment), dependency ratio (the proportion of workers in a HH to total members), the monthly per capita expenditure. This data is worth perusing.

Table 4: Percentage Distribution of Unorganized Workers in Different Poverty Status by Social Groups (2004-05)

Sl No.	Poverty Status	Total	ST/SC	OBCs	Muslim	Others
1	Extremely Poor and Poor	100.0	44.9	33.6	12.9	8.6
2	Marginal and Vulnerable	100.0	30.5	40.6	10.8	18.1
3	Poor and Vulnerable (1+2)	100.0	34.3	38.7	11.3	15.6
4	Middle and High Income	100.0	16.4	35.6	7.6	40.4
5	Total	100.0	30.5	38.0	10.5	20.9

Each row does not add up to 100 as the distribution by social status does not include non-reporting cases in 2004-05

Table 5: Comparative Estimates of Household Characteristics by Poverty Status (All India 2004-05)

Sl No.	Poverty Status	MPCE ⁺ (Rs)	Land Possessed (ha)	HH Size	No of Workers	Dependency Ratio (%)	Workforce Participation Rate
1	Extremely Poor and Poor	321.0	0.38	5.74	2.18	2.64	37.68
2	Marginal and Vulnerable	550.0	0.59	4.83	2.07	2.33	42.70
3	Poor and Vulnerable (1+2)	485.0	0.54	5.06	2.10	2.41	41.28
4	Middle and High Income	1388.0	0.67	3.62	1.61	2.25	44.32
5	Total	695.0	0.58	4.63	1.95	2.37	41.98

⁺ Monthly Per Capita Expenditure

The data in these tables helps understand the distribution and characteristics of HHs by poverty status.

Focusing on employment and unemployment, only in terms of person-days, fails to capture an important aspect of the employment problem, the *quality* of employment. Income or wages is one of the variables reflecting quality. Many people are employed in the unorganized sector but they get low wages and income. That is why there are so many gaps between unemployment (based on time criterion) and poverty and we have large numbers of ‘working poor’.

Table 6: Distribution of Total and Unorganized Workers (2004-05)

Sl No.	Poverty Status	Total Workers (in million)	Work Participation Rate (%)	Unorganized Workers (in million)	Share of Unorganized Workers to Total Workers (%)
1	Extremely Poor and Poor	89.3	37.7	87.8	98.3
2	Marginal and Vulnerable	255.8	42.7	244.8	95.7
3	Poor and Vulnerable (1+2)	345.1	41.3	332.6	96.4
4	Middle and High Income	112.4	44.3	90.0	80.1
5	Total	457.5	42.0	422.6	92.4

Work Participation Rate = (Total workers/Total Population)*100

3.2.2 Trends in Labor Force Size

The stark reality of livelihoods becomes clear by just looking at the numbers. India is a large country with a population of 1.25 billion persons and its labor force is growing every year. No other nation, with the exception of China, has had to deal with such large numbers when it comes to provision of livelihoods. The increment was ten million a year in the 2003-2012 decade and will be about eight million a year in the current (2013-2022) decade. The overall labor force which was about 440.2 million persons (329.2 rural and 111.0 urban) in 2002, has already grown in a decade by just over a 100 million to 541.8 million in 2012 (391.2 rural and 150.6 urban). The projections⁴¹ are of further growth to 623.4 million (434.3 rural and 189.1 urban) by 2022. In other words, the labor force in the current decade (2013-2022) is projected to go up by another 81.6 million persons. The projected growth rate is slower because of the tendency for reduction in the female labor force participation rate. (For more on that, see below).

3.2.3 Trends in Labor Force Participation Rates

The labor force is defined as all persons working (or employed), or those seeking employment and available for work (but unemployed).

Table 7: Labor Force Participation Rate by Sex and Place of Residence (1983-2010)

NSS round	Male		Female	
	Rural	Urban	Rural	Urban
1983	55.5	54.0	34.2	15.9
1987/88	54.9	53.4	33.1	16.2
1993/94	56.1	54.3	33.0	16.5
1999/2000	54.0	54.2	30.2	14.7
2004/05	55.5	57.1	33.3	17.8
2009/10	55.6	55.9	26.5	14.6

Source: Visaria (1998) and NSS employment and unemployment survey reports

⁴¹ Report of the Working Group on Labor Force & Employment Projections constituted for the Eleventh Five Year Plan (2007 – 2012). Planning Commission, 2008. Accessible at: http://planningcommission.nic.in/aboutus/committee/wrkgrp11/wg11_lproj.pdf

As Table 7 shows, the labor force participation rate (LFPR) for males has been steady, around 54 to 56 percent over a quarter century. But the LFPR for females which was also steady around 32 to 34 percent in rural areas and 16 percent in urban areas has declined in the last decade. This trend in the decline of female participation in labor force has attracted a lot of scholarly attention⁴² and it has been attributed to various causes – additional years of schooling for girls in the last decade and also the tendency of women of high income HHs to withdraw from the labor force. The disquieting causes are those of measurement where women’s employment may be undercounted and occupational segregation i.e., women tend to be grouped in certain industries and occupations,⁴³ which in turn, have not witnessed growth in recent years.⁴⁴

3.2.4 Trends in Occupational Diversity

Over a period of time, the occupational diversity and thus livelihood patterns of people have changed. Till the 1990s, workers were divided into three groups: (i) those engaged in agriculture, animal husbandry and allied activities, (ii) those engaged in HH industries and (iii) those engaged in other services. Later, these were further divided into other categories such as (i) Agriculture, Forestry, Fishing & Mining and Quarrying; (ii) Manufacturing, Construction, & Electricity, Gas and Water Supply; (iii) Trade, Hotels, Transport & Communications; (iv) Finance, Insurance, Real Estate and Business Services and (v) Community Social and Personal Services. Therefore, to maintain consistency we have used the classification on 1950’s for which data was available.

Table 8: Distribution of Workforce and GDP as per the Industry of Origin

Year	Agriculture and Allied		Household Industry		Other Services	
	Percentage of					
	Workforce Engaged	GDP Contributed	Workforce Engaged	GDP Contributed	Workforce Engaged	GDP Contributed
1951-52	69.4	52.6	NA	17.1	30.6	30.3
1961-62	69.8	47.2	NA	21.2	30.2	31.5
1971-72	NA	41.1	NA	24.3	NA	34.6
1981-82	60.5	35.7	NA	26.5	39.5	37.8
1991-92	59.0	28.6	NA	27.4	41.0	44.0
2001-02	58.2	22.4	4.2	26.6	37.6	51.0
2011-12	54.6	14.1	3.8	27.5	41.6	58.4

⁴² Sandhya Rani Mahapatro, 2013. *Declining Trends in Female Labor Force Participation in India: Evidence from NSSO*, Institute for Social and Economic Change, Bangalore.

⁴³ basic agriculture, sales and elementary services and handicraft manufacturing.

⁴⁴ http://www.ilo.org/global/about-the-ilo/newsroom/comment-analysis/WCMS_204762/lang--en/index.htm

A look at this table shows that in the 1950s, 69.4 percent of the people were dependent on agriculture for their livelihoods. Over time, this number has slowly come down to about 54.6 percent. But what is worrisome is that these 69 percent of the people used to share 52.6 percent of the national income, which now has come down to only 14.1 percent. This indicates that the livelihoods of the 50 percent of the people engaged in agriculture and related activities who feed the other half, have come under tremendous stress.

This fall has been accompanied by a steady decline in the size of operational holding of agricultural land. As the following table shows, the average size of an operational holding came down from 2.63 ha in 1960-61 to 1.06 ha in 2002-03.

Table 9: Landholding Pattern in India

	1960-61	1970-71	1981-82	1991-92	2002
No. of Operational Holding in mn	50.77	57.07	71.04	93.45	101.27
Total Area Operated mn. ha	133.48	125.68	118.57	125.1	107.65
Average area operated per holding (ha)	2.63	2.2	1.67	1.34	1.06

Source: 'Some Aspects of Operational Land Holding in India 2002-03', NSSO, Ministry of Statistics & Program Implementation, Government of India

With a larger number of people taking up non-farm activities in the urban centers, there was a political imperative for keeping the food prices under control. Therefore, as studies by various scholars have shown, with reducing operational holdings and non-remunerative returns from most agricultural crops, it became difficult for people engaged in farming to make both ends meet. This prompted many of them to diversify and supplement their farm income with income from other activities.

Over time, this combination of farming in the rainy season and migration to cities for manual work in the winter months, while returning by summer, became a dominant livelihood pattern in rural India. While farming activities remained in the rural areas, most non-farm activities developed in larger growth centers, which often grew into small urban areas, diffusing the rural-urban boundaries. Most rural HHs engage in a portfolio of subsistence livelihood activities, none of which could individually meet the total requirements of the family. With improvement in transportation and the road networks, the number of people engaged in daily-migration to towns has increased. Apart from augmenting their income, this has several other implications for the livelihoods of these HHs.

A close look at the data for the period between 1999-2000 and 2010-11, for which greater detail is available, shows that sectors (such as Financial and Business Services) whose contribution to the GDP increased, employed a relatively small proportion of the workforce.⁴⁵ This is commonly known as 'jobless growth', and it was the bane of India's otherwise creditable growth story since the 1990s.

Table 10: Sector wise Distribution of Employment and GDP

Sector	1999-00			2004-05			2009-10			
	Rural emp	Urban emp	GDP	Rural emp	Urban emp	GDP	Rural emp	Urban emp	Total emp	GDP
Agriculture/Fishing	76.2	8.8	25.0	72.7	8.8	19.0	68.0	7.5	53.1	17.8
Mining/Quarrying	0.5	0.8	2.3	0.5	0.8	2.9	0.6	0.6	0.6	2.5
Manufacturing	7.4	22.6	14.8	8.1	24.5	15.3	7.2	23.0	11.0	14.8
Electricity water etc.	0.2	0.7	2.5	0.2	0.7	2.1	0.2	0.6	0.3	1.5
Construction	3.3	8.0	5.7	4.9	8.0	7.7	9.3	10.2	9.6	8.2
Trade, Hotels and Restaurants	5.1	26.8	14.2	6.1	24.6	16.1	6.4	24.2	10.8	16.3
Transport	2.1	8.7	7.5	2.5	8.6	8.4	2.9	8.7	4.3	7.8
Financial and Business Services	0.3	4.1	13.1	0.5	5.3	14.7	0.6	6.7	2.1	16.7
Public Administration, Education, Community Services, etc.	4.9	19.5	14.9	4.5	18.7	13.8	4.8	18.5	8.2	14.4
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: NSS Report No. 515: Employment and Unemployment Situation in India, 2004 -05. Part II, p. A436

⁴⁵ NSS Report No. 515: Employment and Unemployment Situation in India, 2004 -05. Part II, p. A436

At the same time, as can be seen from Table 11, overall literacy rates were going up, both for males and females.

Table 11: Literacy Rates in the Period 1951 to 2011

Literacy Rate 1951-2011			
Year	Persons	Males	Females
1	2	3	4
1951	21.82	30.32	12.87
1961	31.47	42.49	19.74
1971	36.95	47.60	25.56
1981	44.92	55.95	33.20
1991	61.29	73.13	48.64
2001	69.14	79.66	57.80
2011	79.31	87.23	70.73

Note: Literacy rates for 1951, 1961 and 1971 related to population aged five years and above. The rates for the years 1981 to 2011 related to population aged seven years and above.

This led to changes in occupational *aspirations*, though not necessarily in available opportunities. This was amply rewarded by the labor market, as Tables 12 and 13 show – the more years of education a person had, the higher the wages he or she earned.⁴⁶

Table 12: Average Wage/Salary Earnings (Rs per day) Received by Different Education Levels

General Education Level	Rural			Urban		
	Male	Female	Person	Male	Female	Person
1	2	3	4	5	6	7
Not literate	72.47	35.74	60.42	98.79	48.70	77.34
Literate and up to Primary	98.59	47.75	91.23	111.44	64.79	105.16
Secondary and Higher Secondary	158.04	100.19	148.39	182.58	150.41	178.29
Diploma/Certificate	214.38	200.40	211.13	274.87	237.02	267.11
Graduate and above	270.02	172.70	253.19	366.76	269.17	344.14
All	144.93	85.53	133.81	203.28	153.19	193.73

⁴⁶ NSS Report No. 515: *Employment and Unemployment Situation in India, 2004-05* p. 86

Table 13: Average Wage/ Salary Earnings in (Rs per day) by Industry of Work and Education Category

Sector of work (industry division/group)	Not Literate	Literate & upto Middle	Education Category			All (incl.n.r.)	Sample persons
			Secondary & Higher Secondary	Diploma/ Certificate	Graduate & above		
1	2	3	4	5	6	7	8
Urban						Male	
Agriculture	68.83	70.66	182.06	0.00	237.37	104.80	1,496
Mining & Quarrying	266.71	248.61	348.64	343.22	806.61	359.41	2,662
Manufacturing	79.41	88.45	122.10	199.92	218.85	113.22	14,336
Manufacturing	106.70	108.62	176.79	239.36	362.06	189.41	17,103
Electricity, Gas and Water	159.10	188.21	325.56	384.04	523.53	340.51	2,968
Construction	81.03	115.36	106.45	259.93	376.45	171.47	2,506
Trade	62.44	76.41	112.21	146.67	208.97	103.47	24,050
Transport & Storage etc.	104.74	138.84	211.92	341.87	361.17	207.57	16,244
Services	64.01	122.25	174.19	287.73	501.69	360.15	9,080
Services	126.8	150.14	239.72	309.62	345.63	265.72	47,848
Private HHs. with Emp. Persons	78.77	89.82	62.95	0	164.08	86.94	2,548
Others	0.00	0.00	134.00	0.00	0.00	134.00	7
Non-agriculture	99.75	111.89	182.59	274.87	367.06	204.09	1,39,352
All	98.79	111.44	182.58	274.87	366.76	203.28	1,40,847
Sample Person Days	9,296	49,833	37,604	8,134	35,910	1,40,847	x
Urban						Female	
Agriculture	55.60	73.45	74.20	266.71	225.56	79.59	392
Mining & Quarrying	154.15	75.78	714.29	212.36	351.3	186.30	119
Manufacturing	34.23	53.25	70.71	54.81	235.1	65.58	2,564
Manufacturing	54.81	45.81	113.24	238.87	219.39	102.16	1,386
Electricity, Gas and Water	127.06	103.33	240.48	273.17	422.72	233.34	308
Construction	69.08	122.35	147.59	127.07	253.59	191.75	231
Trade	48.81	53.63	95.07	88.97	204.85	104.53	1,688
Transport & Storage etc.	90.72	144.69	228.99	138.83	414.48	278.41	840
Services	45.77	108.36	131.04	356.09	372.6	304.07	1,812
Services	78.53	116.16	186.33	236.3	247.12	205.35	19,016
Private HHs. with Emp. Persons	38.2	42.77	51.67	34.23	67.61	41.26	9,268
Others	0.00	0.00	66.71	0.00	0.00	66.71	7
Non-agriculture	48.54	64.69	150.64	237.02	269.29	153.83	37,240
All	48.7	64.79	150.41	237.02	269.17	153.19	37,632
Sample Person Days	7,777	9,135	6,965	2,520	11,228	37,632	x

3.2.5 Trends in Casual Employment

This period has also witnessed rapid deterioration in the quality of employment. While the Government has taken efforts to tighten labor laws, making them equitable for the workers, there has been an increase in the number of casual employment as compared to regular employment. While employment security has decreased, the number of working hours has increased with reduced leave and holidays, and increased uncertainty in terms of employment. Refer to Table 14 and Table 15.^{47, 48}

Table 14: Per 1000 Distribution of Population by Type of Employment

Type of Employment	1993-94	1999-2000	2004-05	2009-10
Self-employed	388	393	433	406
Regular wage/ salaried	428	402	396	385
Casual labor	129	141	118	142
Others	55	63	52	66
All	1000	1000	1000	1000

Source: Computed from various rounds of NSS Surveys: 50th, 55th 61st and 66th Rounds

3.2.6 Trends in Unemployment

Unemployment is measurable and there are different standard measures available. The Unemployment Rate is the proportion of persons in the workforce to those who are currently unemployed, though seeking and available for work (as against those not seeking or not available for work). Currently, the National Sample Survey Organization (NSSO) deems the status ‘unemployed’ in three different ways:

- Usual Status (US) – This is based on the principal activity and subsidiary activities that a person performs during the year. A person is considered unemployed if he or she was not pursuing some economic activity for at least 30 days during 365 days preceding the date of survey. US (ps) is based on the principal activity whereas US (adj.) takes into account subsidiary employment, as well.

⁴⁷ For a detailed discussion on this, see *Papola T.S. and Partha Pratim Sahu (2012) ‘Growth and Structure of Employment in India: Long-Term and Post-Reform Performance and the Emerging Challenge’, Institute for Studies in Industrial Development, New Delhi, March 2012*

⁴⁸ NSS Report No. 515: *Employment and Unemployment Situation in India, 2004-05 p. 86*

- Current Weekly Status (CWS) - This is based on a study of the week preceding the survey. If a person was not engaged in any economic activity for at least one hour on at least one day during the seven days preceding the date of survey, he or she is considered 'unemployed'.
- Current Daily Status (CDS) - This is based on hourly time disposition study in the week preceding the survey. If a person was not engaged in any 'work' even for one hour on a day but was seeking or available for work for four hours or more, he or she was considered 'unemployed' for the entire day. This is done for a whole seven day period.

For rural unemployment (Table 15), the CDS unemployment rates (UR) varied from a low of 46 per 1000 in 1987-88 to as high as 80 in 2004-05 for rural males and 56 in 1993-94 to 112 in 1972-73 for rural females. The latest available data is for 2011-12 and the UR was 55 for rural males and 62 for females (Refer Table 16). Though there is no long-term trend in these numbers, one can see that rural unemployment is certainly not declining with overall growth. In fact, the numbers for 2011-12 are lower because the major government funded employment program Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) had commenced nationwide. Another fact to be noted is that female unemployment rate is always higher than that of males.

For urban unemployment, we see (Table 15) that the CDS unemployment rates (UR) varied from a low of 67 per 1000 in 1993-94 to as high as 94 in 1993-94 for urban males and 145 in 1977-78 to 94 in 1999-2000 for urban females. The latest data available is for 2011-12 and the UR was 49 for urban males and 80 for urban females (Refer Table 16). It appears that urban unemployment is declining with overall growth. Once again, however, the urban female unemployment rate is higher than that of urban males.⁴⁹

⁴⁹ *Key Indicators of Employment and Unemployment in India, 2011-12*

Table 15: Unemployment Rates (per 1000 Persons in the Labor Force) according to Usual Status, Current Weekly Status (CWS) and Current Daily Status (CDS) during 1972-73 to 2004-05

All India

Round (year)	Unemployment rate							
	Male				Female			
	Usual Status (ps)	Us (adj.)	CWS	CDS	Usual Status (ps)	Us (adj.)	CWS	CDS
1	2	3	4	5	6	7	8	9
Rural								
61 (2004-05)	21	16	38	80	31	18	42	87
55 (1999-2000)	21	17	39	72	15	10	37	70
50 (1993-94)	20	14	31	56	13	9	29	56
43 (1987-88)	28	18	42	46	35	24	44	67
38 (1983)	21	14	37	75	14	7	43	90
32 (1977-78)	22	13	36	71	55	20	41	92
27 (1972-73)	-	12	30	68	-	5	55	112
Urban								
61 (2004-05)	44	38	52	75	91	69	90	116
55 (1999-2000)	48	45	56	73	71	57	73	94
50 (1993-94)	54	41	52	67	83	61	79	104
43 (1987-88)	61	52	66	88	85	62	92	120
38 (1983)	59	51	67	92	69	49	75	110
32 (1977-78)	65	54	71	94	178	124	109	145
27 (1972-73)	-	48	60	80	-	60	92	137

Table 16 : Unemployment Rate (per 1000) in Usual Status (ps), Usual Status (Adjusted), CWS and CDS

Category of persons		Age all				Age 15-59			
		Usual Status (ps)	Usual Status (adjusted)	CWS	CDS	Usual Status (ps)	Usual Status (adjusted)	CWS	CDS
Rural	Male	21	17	33	55	23	19	35	57
	Female	29	17	35	62	30	17	36	63
	Person	23	17	34	57	24	18	35	59
Urban	Male	32	30	38	49	34	31	40	50
	Female	66	52	67	80	69	55	70	82
	Person	38	34	44	55	40	36	46	55
Rural + Urban	Male	24	21	35	53	26	22	36	55
	Female	37	24	42	66	39	25	43	65
	Person	27	22	37	56	29	23	38	58

Reference: State/UT tables s15, s10, s18, s31, s32 and s34

3.2.7 Trends in Inter-Generational Mobility

For this section, we rely heavily on a single article.⁵⁰ Its findings are stark and clear, so we quote it verbatim.

We find considerable intergenerational occupational persistence – across all occupational categories, the father’s category is the most likely one that a son could find himself in (e.g., a likelihood of almost half for agricultural laborers). But, there are differences across occupational categories – the probability that a son would fall in the father’s category is higher for the low-skilled or low-paying occupations. There are also differences across sectors. As expected, mobility is higher in urban areas as compared to rural areas. Comparison of mobility for scheduled castes and scheduled tribes (SCs/ STs) and non-SCs/ STs gives ambiguous results. However, we document considerable downward mobility for the SCs/ STs and show that this is higher than the same for non-SCs/ STs. For SCs/ STs, we also observe higher persistence (as compared to the same for non-SCs/ STs) in low-skilled/ low-paying occupations. Overall, our results show, as expressed by the popular German proverb, that the apple does fall close to the tree.

Table 17: Distribution (percentage) of Individuals by Occupational Categories: All-India, Rural and Urban Areas

	All India		Rural		Urban	
	Fathers (i)	Sons (ii)	Fathers (iii)	Sons (iv)	Fathers (v)	Sons (vi)
Farmers (1)	47.19	24.45	55.19	32.70	25.62	2.16
Self-employed in non-agriculture (2)	3.79	14.47	1.75	10.88	9.29	24.15
Agriculture Laborers (3)	22.57	19.83	25.87	25.64	13.66	4.15
Professionals, Officials and related (4)	6.22	6.01	3.93	3.46	12.42	12.88
Clerks, Service workers, Skilled, Agriculture and Fisheries' workers and related (5)	6.42	8.33	3.47	4.56	14.36	18.50
Craftsmen, Plant Operators and related (6)	7.62	8.83	5.31	5.56	13.86	17.64
Elementary Occupations and others (7)	6.18	18.1	4.47	17.20	10.79	20.53

The number of individuals at the rural, urban and all - India levels are 18,679,9,591 and 28,270 respectively

Source: Authors' computations based upon IHDS (2004-05)

⁵⁰ Motiram, Sripad and Ashish Singh, 2012 How Close Does the Apple Fall to the Tree? Some Evidence from India on Intergenerational Occupational Mobility. *Economic & Political Weekly* Vol xlviI no. 40, p. 56 Oct 6, 2012

Table 18: Occupational Transition Matrix : Rural India

Occupational Categories of Fathers	Occupational Categories of Sons (Percentage)						
	1	2	3	4	5	6	7
Farmers (1)	49.52	8.55	16.85	3.36	3.95	3.22	14.55
Self-employed in non-agriculture (2)	9.76	62.40	7.00	3.51	4.24	4.29	8.80
Agriculture Laborers (3)	10.44	5.95	55.87	1.51	2.69	4.12	19.43
Professionals, Officials and related (4)	26.55	17.49	10.25	18.19	10.25	7.15	10.13
Clerks, Service workers, Skilled Agriculture and Fisheries workers and related (5)	15.62	18.93	11.00	6.64	21.27	6.84	19.70
Craftsmen, Plant operators and related (6)	10.64	23.94	8.07	2.75	5.35	35.27	13.98
Elementary Occupations and others (7)	7.93	20.46	12.36	1.25	4.05	5.64	48.31

Source: Authors' computations based upon IHDS (2004-05)

Broadly speaking, we believe that our results suggest considerable rigidity in class positions, particularly for the lower classes. Overall, we interpret our findings as suggesting that considerable inequality of opportunity exists in India. Given that the rich and wealthy are likely to be underrepresented in the IHDS⁵¹ (as in other surveys, including NSS) and since the children of the rich seem to be doing quite well (at least going by media reports), we believe that inequality of opportunity is higher than what we have documented.

3.3 Livelihoods in the Farm, Rural Non-Farm and Urban Informal Sectors

In 2001, India's work force of nearly 400 million (which has crossed 550 million by 2014) was largely (93%) engaged in either agriculture and allied farm sector activities or in the rural non-farm sector or in the urban informal sector. For an analysis of the trends during the 1980s and 1990s, we cite extensively from a paper by Jha of the Institute of Economic Growth.⁵²

⁵¹ The India Human Development Survey (IHDS) is a nationally representative, multi-topic survey first conducted in 2004-05

⁵² Jha, Brajesh (n.d.) *Rural Non-Farm Employment in India: Macro-Trends, Micro-Evidences and Policy Options*. Institute of Economic Growth, New Delhi

Table 19: A Comparative Account of Growth in Employment and Income for Selected Industries/ Industry-Groups during 1980s and 90s

Industries	ACGR in Employment				ACGR in Income		Employment Elasticity	
	1983-94		1994-2000		1983-94	1994-2000	1983-94	1994-2000
	Rur	Urb	Rur	Urb				
Agriculture & Allied	1.13	2.33	0.06	-1.58	1.22	1.24	0.95	0.01
Mining & Quarrying	1.47	1.47	0.27	-1.56	2.61	2.21	0.56	-0.04
Manufacturing	0.89	0.85	0.84	1.32	2.52	3.1	0.34	0.35
Utilities	0.41	0.67	-0.08	-1.22	3.51	2.92	0.16	-0.26
Construction	1.03	3.11	2.28	2.61	2.1	2.67	0.82	0.89
Trade+Hotels & Restr.	1.67	1.88	1.22	4.31	2.36	3.81	0.76	0.82
Transport+ Storage+Com.	1.16	1.01	2.93	1.92	2.57	3.89	0.43	0.59
Fin+Insu+RE+ B services	1.18	1.62	1.9	2.72	4.18	3.48	0.36	0.73
Com+Social+ Pers. Servi	0.66	1.93	-0.63	-2.4	2.4	3.37	0.59	-0.47
Non-agriculture	1.03	1.57	0.91	1.24	2.7	3.39	0.48	0.32
Total	1.11	1.64	0.26	0.99	2.19	2.79	0.54	0.16

Note: These estimates have been worked out with the Current Daily Status (CDS) figures of employment from the NSSO and figures from the CSO, New Delhi.

Though the share of agriculture in the economy has declined, three-fourths of the rural work force is dependent on it. The bulk of employment in agriculture is rural-based (97%) and rural employment growth in agriculture is abysmally low (0.06%) and insignificant during the 90s. The corresponding growth was moderate and significant (1.1%) during the 80s. The growth of agricultural income during the 90s is higher (0.02%) than in the 80s. Further, livestock which had emerged as an important source of rural employment during the 80s has undergone structural changes, as the livestock population had declined leading to a decline of employment in the livestock sector.

The Annual Compound Growth Rate (ACGR) of employment in the non-agricultural sector, unlike for agriculture, has been positive and significant during the 90s; this has held true for both rural and urban sectors. The non-agriculture industrial categories, where employment growth during the 90s was positive and also higher than in the previous reference period, were manufacturing, construction, trade, transport and business services. In the rural sector Construction, transport and business services recorded a higher growth during the 90s as compared to the previous decade.

3.3.1 Farm-based Livelihoods

India has a large agrarian economy with most of its rural population subsisting on farming. The NSSO conducted a Situation Assessment Survey of Farmers⁵³ during 2003 as part of the NSS 59th round. Data for the survey were collected from 51,770 HHs spread over 6,638 villages from across the country. Agricultural activities included cultivation of field and horticultural crops, growing of trees or plantations, such as rubber, tea, etc., and animal husbandry, fishery, sericulture etc.

Box 1: Highlights of the Situation Assessment Survey of Farmers

The most notable finding

- An estimated 27 percent of farmers did not like farming because it was not profitable. In all, 40 percent felt that, given a choice, they would take up some other livelihood [Indeed, this proportion in 2014 may be even higher.]

Awareness Levels

- The break-up of members of farmer HHs by educational level was very similar to that of the entire rural population.
- About 18 percent of farmer HHs knew about bio-fertilizers and 29 percent understood what the minimum support price meant. Only eight percent had heard of the World Trade Organization.
- Only four percent of farmer HHs had ever insured their crops and 57 percent did not know that crops could be insured.

Organized or Not

- Nearly five percent of farmer households had a member who belonged to a self-help group (SHG). Only two percent had a member who belonged to a registered farmers' organization.
- About 29 percent of farmer HHs included a member of a cooperative society. Only 19 percent had availed themselves of services from a cooperative. Most of these HHs availed themselves of either credit facilities, or services related to seeds or fertilizers.

⁵³ NSS Report No.496: Some Aspects of Farming, 2003. Classifications and comments in [] added by Resource Book authors.

Land Use

- Among the various agricultural activities covered in the survey, 96.2 percent of all land used for farming during the *kharif* and 95.1 percent during the *rabi* season was devoted to cultivation, including horticulture, sericulture and vermiculture. In case of leased-in land, 98.2 percent was cultivated during the *kharif* and 97 percent during the *Rabi* season.
- The share of orchards and plantations in total farmed land was three percent during the *kharif* and four percent during the *rabi* season. In land farmed by SC HHs, the share of orchards and plantations was one-two percent.

Irrigation

- Almost 50 percent of all land irrigated during the *kharif* season and 60 percent during the *rabi* season was irrigated by tube-wells. Wells were used to irrigate 19 percent of land during *kharif* and 16 percent during *rabi*. Canals accounted for irrigation of 18 percent land during *kharif* and 14 percent during *rabi*.
- An estimated 62 percent of net irrigated area during *kharif* and 69 percent during *rabi* was devoted to cultivation of cereal crops.
- Gross irrigated area accounted for 42 percent of cropped area during the *kharif* and 56 percent during the *rabi* season.
- About 79 percent of gross irrigated area during the *kharif* and 83 percent during the *rabi* season was irrigated without the use of any device. Around five percent was irrigated with the help of diesel pumps and four percent with electric pumps.

Inputs –Seeds, fertilizers, Pesticides

- Almost 48 percent of farmer HHs purchased their seeds and 47 percent used farm saved seeds. Whereas 30 percent farmers replaced seed varieties every year, another 32 percent replaced them every alternate year.
- Fertilizers were used by 76 percent farmer HHs during the *kharif* and 54 percent during the *rabi* season. For 27 percent HHs, fertilizers were available within the village.
- Organic manure was used by 56 percent farmer HHs during the *kharif* and 38 percent during the *rabi* season. It was available within the village for 68 percent HHs during the *kharif* and 75 percent HHs during the *Rabi* season.
- Improved seeds were used by 46 percent farmer HHs during the *kharif* and 34 percent during the *rabi* season. They were available within the village for 18 percent farmer HHs.

- Pesticides were used by 46 percent farmer HHs during *kharif* and 31 percent during *rabi*. Veterinary services were used by 30 percent during *kharif* and 22 percent during *rabi*. Only 1.5-2 percent of farmer HHs said facilities for testing of fertilizers or pesticides were available to them.

Energy use

- Of the farmer HHs using non-human energy sources for ploughing, about 47 percent used diesel tractors while 52 percent relied on animal power. Among those using non-human energy sources for harvesting, 59 percent used diesel-powered machines. Of those reporting non-human energy use for irrigation, 66 percent used diesel pumps and 33 percent used electric pumps.

Landless farmers

- Farmer HHs possessing less than 0.01 hectares of land - who dedicated only 14 percent of farmed land for cultivation - reported 69 percent of farmed land was used for dairy activities, compared to 0.35 percent for all farmer HHs taken together.

3.3.2 Rural Non-Farm and Urban Informal Sector Livelihoods

After the agricultural sector, we turn our attention to the next two major sectors for livelihoods - the Rural Non-Farm Sector and the Urban Informal Sector. The major source of information on the Rural Non-Farm Sector and the Urban Informal Sector is the Economic Census, 2005,⁵⁴ the latest for which data is available. This is because in rural areas, the Economic Census does not cover farms and cultivators, and in urban areas, it does not cover factories and large service establishments. It does cover 'Agricultural Establishments', which provides employment to about 11 percent (10.9 million out of 100.9 million total employment) and 87 percent of those were engaged in farming of animals. It provides a perfect data base for understanding the Indian non-farm rural and the urban informal sector livelihoods.

⁵⁴ Accessible at: http://mospi.nic.in/mospi_new/upload/economic_census_prov_results_2005.pdf

Box 2: Highlights of the 5th Economic Census, 2005

Highlights of Establishments:

- There were 41.83 million establishments in operation during the year 2005, 25.54 million in rural areas and 16.29 million in urban areas. While the non-agricultural establishments accounted for 35.75 million, the agricultural establishments (excluding those engaged in crop production and plantation) accounted for 6.08 million.
- Establishments registered a growth rate of 4.69 percent per annum (5.37% rural and 3.69% urban) during 1998-2005 as their number increased from 30.35 to 41.83 million.
- Non-agricultural establishments grew at the rate of 4.16 percent per annum (4.56% rural and 3.67% urban), while at the same time, agricultural establishments grew at the rate of 8.32 percent per annum (8.62% rural and 4.42% urban) during 1998-2005.
- There were 26.94 million (64.41%) Own Account Establishments (OAEs i.e. establishments without any hired workers) and the remaining 14.89 million (35.59%) were establishments with hired workers. OAEs grew at the rate of 3.36 percent per annum (4.18% rural and 1.83% urban) while the growth of establishments with hired workers was of the order of 7.50 percent per annum (8.83% rural and 6.30% urban) during the period 1998-2005.
- Of 41.83 million establishments, around 39.61 million establishments were under private ownership. Around 7.54 million (18.03%) worked without any designated premises i.e., floating establishments, around 2.22 million (5.3%) were seasonal establishments.
- About 76 percent of the establishments (31.74 million) worked without any power.
- While farming of animals was the major economic activity (87%) pursued by the agricultural establishments, 'retail trade' (41.8%) followed by manufacturing (23.3%), and other community, social and personal service (7.3%) were the dominant activities of the non-agricultural establishments.

Highlights of Employment:

- Around 100.9 million persons, 52.1 million rural and 48.8 million urban, were working in these 41.83 million establishments. While employment in own account establishments were of the order of 35.7 million, employment in establishments with hired workers were of the order of 65.2 million. Agricultural establishments provided employment to around 10.9 million persons at the same time the non-agricultural establishments (NAE) provided employment to around 90.0 million persons.

- The growth rate of employment during 1998 to 2005 was of the order of 2.78 percent per annum (3.88% rural and 1.70% urban). This is considerably higher than the growth rate (1.75%) observed during 1990 to 1998.
- Of the total employment of 100.9 million, 78.3 million (37.6 rural and 40.7 million urban) were male, 20.2 million (13.0 million rural and 7.2 million urban) were female and around 2.4 million (1.5 million rural and 0.9 million urban) were children.
- Around 54.4 million persons (53.9%) were hired workers and the remaining 46.5 million were own account workers. Out of these hired workers, 41.3 million were male, 11.6 million were female and 1.5 million were children.
- The manufacturing sector was the largest employer providing employment to 25.5 million (25.25%) persons. This was followed by the retail trading activity, which employed 25.1 million persons (24.91%) and 9.2 million (9.13%) in farming of animals.
- Average employment per OAE was 1.33 persons and that per establishment with hired workers was 4.38 persons. Overall, average employment per establishment was 2.41 persons. Average employment per establishment which was 2.88 persons in 1990 had come down to 2.75 persons in 1998 and further gone down to 2.41 persons in 2005.
- Distribution of establishments by size class of employments revealed that around 95 percent of establishments had one to five workers, 3.42 percent of establishments employed six to nine workers and only 1.51 percent of establishments employed 10 workers and above.

3.4 Profiling Livelihoods Using Primary Methods

The livelihoods of any HH or a community can be profiled along the following:

- Livelihood Strategies
- Livelihood Activity Portfolio
- Livelihood Capabilities
- Livelihood Shocks and Vulnerabilities

Ideally, livelihood strategies would be the steady choices made by a HH, based on which its members engage in activities to maximize their well-being. For example, a HH consisting of a husband and a wife, a son and a daughter and an old mother, with only an acre of irrigated land can decide that the wife can cultivate paddy in 0.8 acres and vegetables in the rest, for the family's consumption and for sale. The husband may be traveling to the nearby town for six days a week to work as a peon in a government office, because he gets a regular salary and the family gets health coverage from the Employees State Insurance Corporation. Both children go to school and the old mother looks after the cow and six to eight poultry birds in their backyard. This work is light enough for her and can be done at home because she cannot move out much.

The livelihood activity portfolio is basically a list of all activities that the members of a HH perform to make a living and includes both paid activities (such as wage work) and unpaid activities (such as collecting firewood from the village commons). Some of these activities may be performed only for a brief period every day or may be performed only seasonally. Some are executed locally and the others require them to move elsewhere, say when they have to search for work every day and return home at the end of day's labor, for short periods or long-periods (as when migrating to a city).

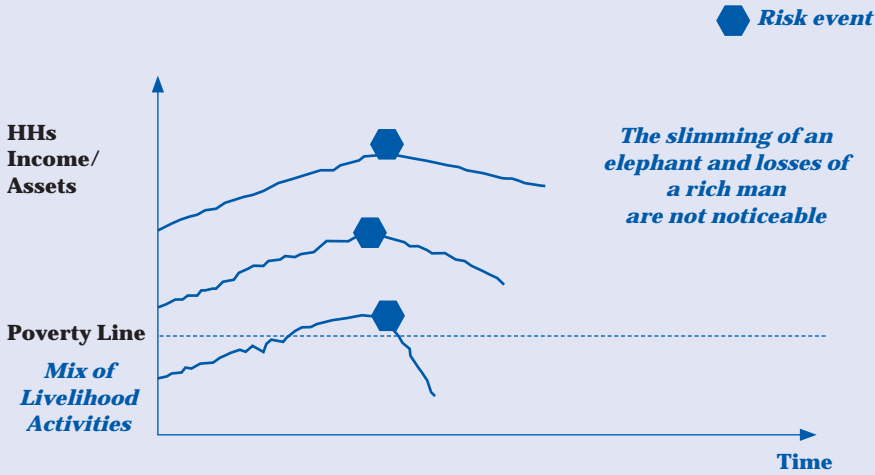
Capability has two parts: functionings – which is the *ability* or *skill* to do something and the *mental state*, such as the self-confidence to do it, along with the freedom to pursue different functionings. It has to be recognized that capability is dynamic.

Shocks are events that affect a HH's prospects adversely. These may be caused by natural or man-made events. Earthquakes, cyclones and epidemics, droughts, floods, fire and riots are some examples of such events. Vulnerability refers to the pre-disposition of a HH to withstand or be affected by shocks. The more vulnerable a HH is, the lesser is the capability to withstand and hence, a higher probability of slipping back into poverty.

In this Resource Book, we have developed a tool for capturing these four aspects of livelihoods and it is called the Instrument for Locating a Household on the Economic Snakes and Ladder Space (ILH-ESL). This is discussed in the chapter on Tools and is also included in the accompanying CD. The data based on a survey of a number of HHs can be displayed on a map using the tool- Livelihood Profiling & Display Using Google Maps, is detailed in the Tools Chapter and is available in the accompanying CD.

Figure 13: Vulnerability to Risk

The poor are more Vulnerable to risk than well offs



We used the (ILH-ESL) tool to study the livelihood profile of a highly disadvantaged group, the *Mal Paharias* in Jharkhand and the results given below are illustrative of the tool.

3.4.1 Livelihood Activity Portfolio – *Mal Paharias*⁵⁵ of Santhal Parganas

The *Mal Paharias* are counted among the so-called ‘primitive’ tribe groups, now called Particularly Vulnerable Tribal Groups (PVTGs). The *Mal Paharias* are found in the South of Rajmahal Hills and constitute 1.39 percent of the total tribal population in the state of Jharkhand. They follow a patriarchal system, where polygamy and widow marriage with the brother of the deceased is permitted through mutual consent. Over 90 percent *Mal Paharias* are Hindus, while a few are Christians. The houses of the *Mal Paharias* are usually temporary structures with mud walls and thatched roof materials. The *Mal Paharias* are predominantly agricultural laborers, working on fields mostly owned by the *Santhals* and others.

⁵⁵ A sample of 21 *Mal Paharias* HHs taken from an overall sample of 152 HHs in five districts

A small section of the *Mal Paharias* do have some agricultural lands, but the cultivation method is such that there is barely enough for subsistence. The method used, called *kurao*, is a type of shifting cultivation. The *Mal Paharias* have now taken to cultivation in the plains, near the foothills. They produce paddy, cowpea, maize and other coarse grains using methods that are barely sustainable. Their poverty forces them to servitude under a system of bonded labor. The average family of the *Mal Paharias* has six to seven members. Male literacy is low – only 28.5 percent. A low life expectancy is indicated by the fact that only 0-3 percent of family members are in the 55 years and above age group. Average land holding is low (2.3 acres) with minimal access to irrigation. The *Mal Paharias* are poor at rearing animals. Only a few families rear pigs or poultry. A good number of *Mal Paharias* raise oxen for use in agricultural activities. Their oxen are usually of poor quality. The *Mal Paharias* do not possess any irrigation assets. To sum up, the *Mal Paharias* are one of the most vulnerable segments of the populace with smaller land holdings, inadequate irrigation and a traditional system of cultivation practices.

3.4.2 Livelihood Strategies of *Mal Paharias*

Agricultural labor and agriculture are the main economic activities for the *Mal Paharias*. Paddy is the major crop in this region, followed by pulses and maize. *Mal Paharias* cultivate paddy in 40–50 percent of their lands. Pulses and maize are cultivated in the *rabi* season in about 15–20 percent of land. Oilseeds are cultivated in small quantities in small parcels of land (0.4–0.5 acres). As only food crops are cultivated, farming is at the subsistence level.

The *Mal Paharia* families are hardly involved in livestock activity. They depend only on agriculture; hence, most of the time is spent in this activity. The communities spend some part of their time especially in summer for NTFP (Non-Timber Forest Produce) collection. These activities usually last for a month at the most, in summer; hence, very little time is allotted for this. *Tasar* cultivation is another important activity taken up during a short period (from September to November) by a few *Mal Paharias*. On an average, the *Mal Paharias* spend about 32 percent of their time in HH activities, seven to nine percent on marketing and the rest on productive activities (most productive season is *kharif*).

Table 20: Proportion of Time Spent on each Activity by Mal Paharias (2003)

Seasons	Activities (Percentage)					Income in Rs
	Agriculture	NTFP	Livestock	Household	Marketing	
Rabi	33	7	12	36	9	4,446
Summer	12	7	7	32	8	4,856
Kharif	28	3	12	32	7	7,866

The table shows the proportion of time spent by the *Mal Paharias* in various activities, their incomes and expenses incurred during 2003. While the total income was Rs 17,168, the expenses were Rs 19,244, a 12.1 percent deficit!

The expenditure pattern reveals 47 percent was spent on food, 13 percent on agri inputs, nine percent on clothes, eight percent on medical expenses and zero percent on education. They access credit from the *mahajans* (moneylenders) for purchasing agri inputs (22%), medicines (17%), food items (18%) and are charged an interest rate of 50–150 percent.

3.4.3 Livelihood Capacities of *Mal Paharias*

The *Mal Paharias* depend to a great degree on forests and forest-based agriculture, which provide them with important sources of income. Animal husbandry is rare, though pigs and backyard poultry are reared. The *Mal Paharias* lack entrepreneurial skills and also do not have any traditional handicrafts skills. Exploitation by intermediaries, irrigation and credit availability are emerging as the most common constraints, limiting the growth of livelihoods for the *Mal Paharias*.

Sector/Sub-sector	Constraints
Non Timber Forest Produce (NTFP)	• Exploitation by intermediaries
	• Lack of processing facilities
	• Reduced availability of edible fruits or plants
Agriculture: Cereal and Pulses	• Lack of irrigation facilities
	• Non-availability of credit and high interest rates
	• Exploitation by intermediaries
	• Poor quality inputs
Animal Husbandry: Goatery and Piggery	• Non-availability of credit and high interest rates
	• Exploitation by intermediaries
	• Lack of transportation

3.4.4 Livelihood Shocks and Vulnerabilities

The shocks faced by a *Mal Paharia* HH are malarial attacks, drought, and occasional fires. Among their vulnerabilities are landlessness, homes with no access to safe drinking water sources within half an hour's walk, HHs headed by a single woman (widows, divorcees, abandoned women or unwed mothers) with either no regular means of employment or no support from someone with a regular means of employment), a HH with no member with regular employment due to illness, physical handicap, old age or addiction.

The *Mal Paharias* are an intensely socially disadvantaged group and prone to exploitation as a result of their limited contact with the outside world.